ORDER NO. AD8903066C8

Service Manual

Amplifier

Digital Integrated Amplifier

SU-X977

Color

(K)...Black Type

Area

Country Code	Area	Color
(E), (E5)	Continental Europe	(K)
(EB)	Great Britain	(K)
(EG)	F.R. Germany & Italy	(K)
(G)	Third Region	(K)
(GN)	New Zealand	(K)

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

DIN power output	
1 kHz THD:1%	2×80 W (8Ω)
Total harmonic distortion	
rated power at 1 kHz	1% (8Ω)
Harmonic distortion	
half power at 1 kHz	0.009% (8Ω)
Residual hum and noise	0.2 mV
Damping factor	30 (8Ω)
Input sensitivity and impedance	
PHONO	3mV/47 kΩ
TUNER,AUX,TAPE 1,TAPE 2	150mV/22 kΩ
CD	200mV/22 kΩ
Maximum input voltage (1 kHz,RMS)	
PHONO	100 mV
S/N (rated power 8Ω)	
PHONO	75 dB (IHF,A:79 dB)
TUNER,CD,AUX,TAPE 1,TAPE 2	82 dB (IHF,A:83 dB)
Frequency responce	
PHONO	RIAA standard curve ± 0.8dB(30 Hz ~ 15 kHz)
TUNER,CD,AUX,TAPE 1,TAPE 2	15 Hz ~ 55 kHz (-3 dB)
CD,DAT (digital section)	15 Hz ~ 20 kHz (-0.5 dB)
Tone controls	
BASS	50 Hz, +10 dB ~ -10 dB
TREBLE	20 kHz, +10 dB ~ -10 dB
Muting	-20 dB
Super bass	70 Hz, +10 dB
Output voltage	
TAPE 1,TAPE 2,REC OUT	150 mV
Channel balance,AUX 250 Hz ~ 6,300 Hz	±1.0 dB
Channel separation, AUX 1 kHz	60dB
Headphones output level and impedance	590 mV/330 Ω
Load impedance	
A or B	8 Ω ~ 16 Ω
SURROUND	8 Ω ~ 16 Ω

■ GENERAL

Power consumption	370 W
Power supply	
For Great Britain and New Zealand	AC 50 Hz/60 Hz,240V
For continental Europe	AC 50 Hz/60 Hz,220V
For others	AC 50 Hz/60 Hz,110V/127V/220V/240V
Dimensions (W x H x D)	360 x 128 x 300 mm (14-3/16″ x 5-1/32″ x 11-13/16″)
Weight	6.8 kg (15 lb.)

Notes:

1.Specifications are subject to change without notice. Weight and dimensions are approximate.

2.Total harmonic distortion is measured by the digital spectrum analyzer.

Technics

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Central P.O. Box 288, Osaka 530-91, Japan

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■ BEFORE REPAIR

(1)Turn off the power supply. Using a 10Ω, 5W resistor connect both ends of power supply capacitors(C701,C702,6800μF) in order to discharge the voltage.

(2)Before turning the power supply on , after completion of repair , slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50Hz/60Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110V/127V/220V/240V.

Power supply voltage	AC110V	AC127V	AC220V	AC240V
Consumed current 50Hz	241 ~ 733mA	223 ~ 669mA	122 ~ 365mA	112 ~ 336mA
Consumed current 60Hz	233 ~ 698mA	217 ~ 650mA	119 ~ 356mA	110 ~ 330mA

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

* No sound is heard when the power is switched ON.

* Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted" , or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

1.Switch OFF the power.

2.Determine the cause of the problem and correct it.

3.Switch ON the power once again.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

■ ACCESSORY

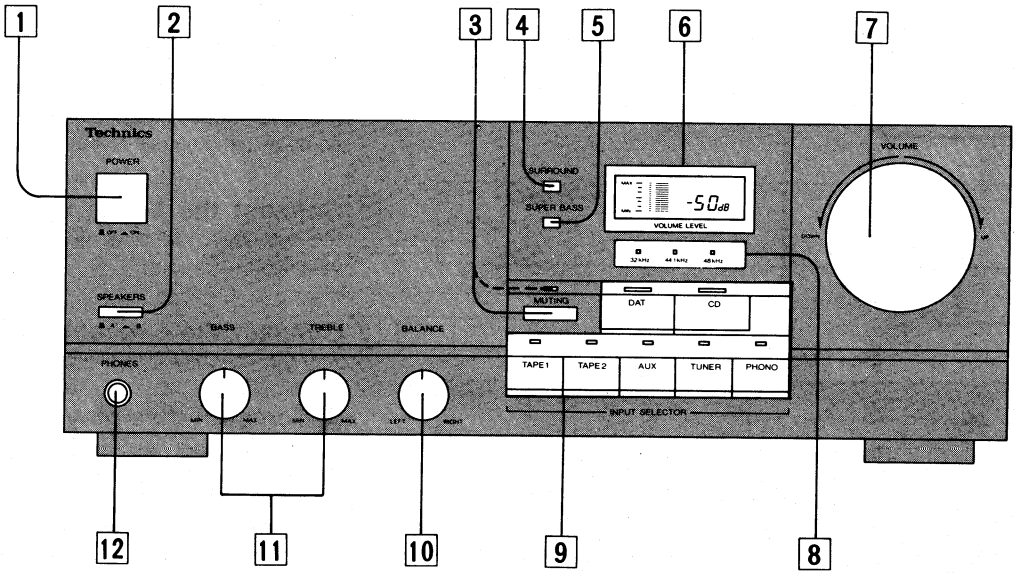
- AC power supply cord 1

  Configuration of AC power supply cord differs according to area.

SJA173 .....For (GN) area only.
SJA188 .....For (EB) area only.
SFDAC05E03 ....For others.

■ LOCATION OF CONTROLS

•Front panel



1 **Power switch (POWER)**

2 **Speaker selector (SPEAKERS)**

3 **Audio muting switch/indicator (MUTING)**

4 **Surround-sound switch (SURROUND)**

5 **Super bass switch (SUPER BASS)**

6 **Volume-level indicator (VOLUME LEVEL)**

7 **Volume control (VOLUME)**

8 **Sampling frequency indicators**
- **32 kHz:** For digital signals with the 32-kHz mode sampling frequency
- **44.1 kHz:** CD and others
- **48 kHz:** For digital signals with the 48-kHz mode sampling frequency

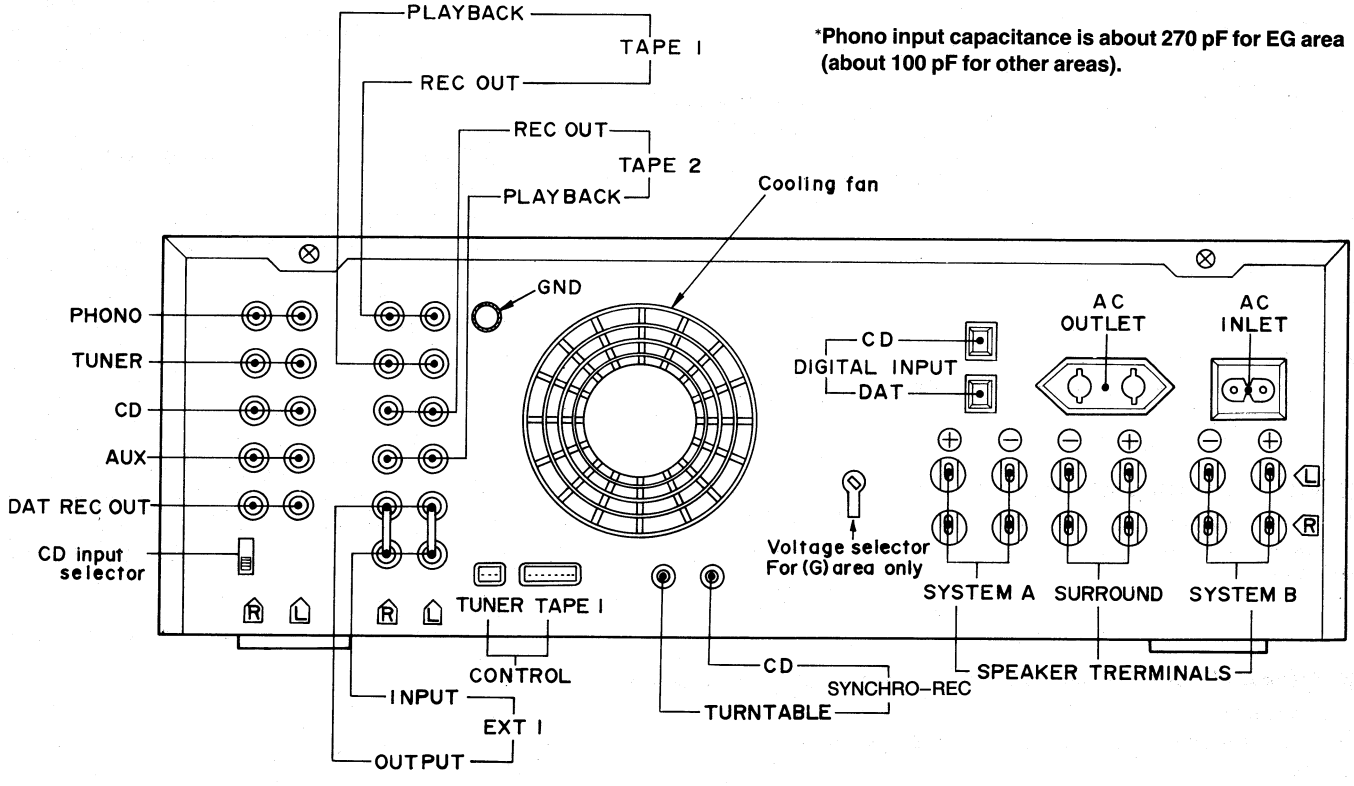
9 **Input selectors/indicators (INPUT SELECTOR)**

10 **Balance control (BALANCE)**

11 **Tone controls (BASS/TREBLE)**

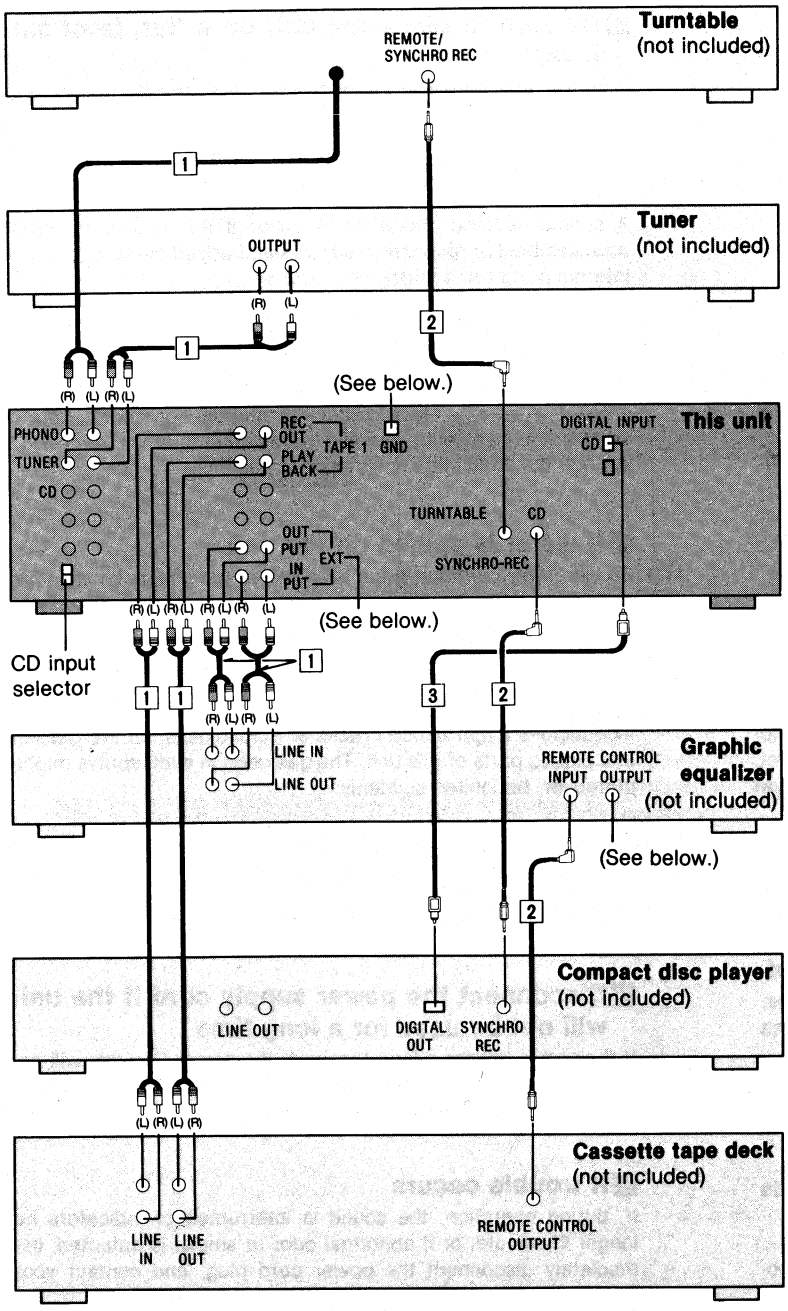
12 **Headphones jack (PHONES)**

•Rear panel



*Phono input capacitance is about 270 pF for EG area (about 100 pF for other areas).

■ CONNECTIONS

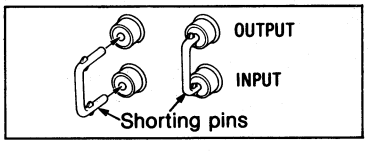


■ "GND" terminal of this unit

This terminal is for use with a turntable which has a ground wire.

■ "EXT" terminals of this unit

When these terminals are not in use, be sure to insert the shorting pins (included).



■ "REMOTE CONTROL OUTPUT" terminal of the graphic equalizer

This terminal is used to connect the compact disc player with the remote-control terminal.

Connection diagrams shown are for connections to a Technics hi-fi component system.
Make connections in the numbered sequential order.

1 Connect the stereo connection cables (included with the turntable, tuner, graphic equalizer, and cassette tape deck).

2 Connect the L-type cables (included with the turntable, compact disc player, and graphic equalizer).

3 Connect the optical-fiber cable (included with the compact disc player).

■ Compact disc player connections

If your compact disc player does not have the "DIGITAL OUTPUT" terminal, use stereo connection cables (not included) to make the connections between the "CD" terminals of this unit and the "LINE OUT" terminals of the compact disc player. If this type of connection is made, this unit's CD input selector should be set to "ANALOG".

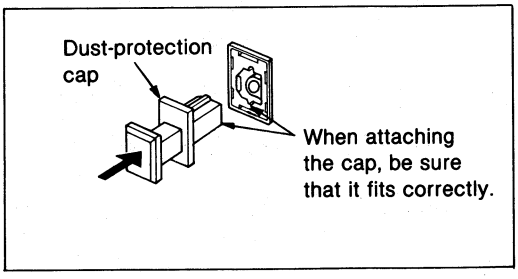
■ CD input selector of this unit

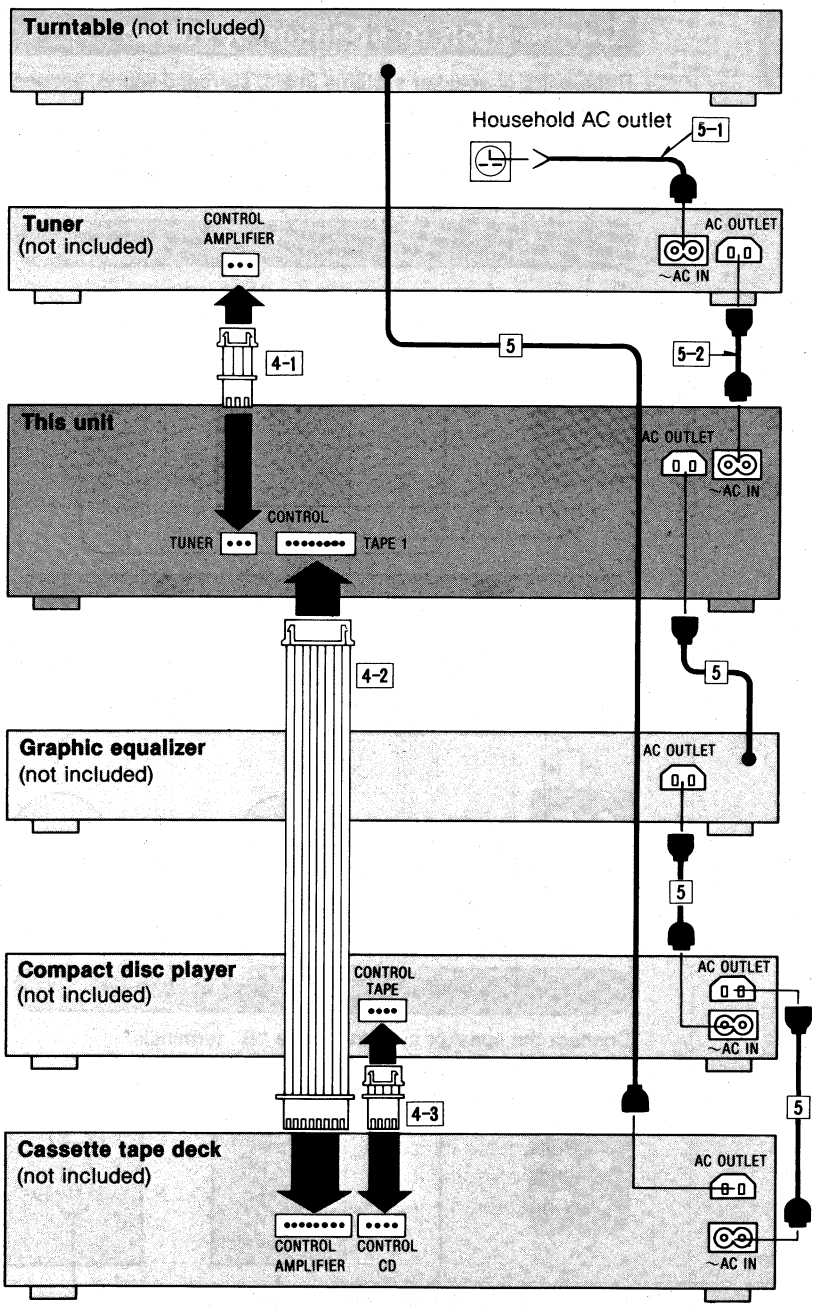
This selector is used for selection of the format (analog or digital) of the input signals from the compact disc player.
ANALOG: Set to this position if stereo connection cables are used.
DIGITAL: Set to this position if an optical-fiber cable is used.
Notes:

1. Be sure the power switch of this unit is switched OFF before changing the setting of this selector. (Interference noise may be emitted if the power switch is ON.)
2. The setting of this selector must be made correctly; if not, no sound will be emitted when the "CD" input selector of the front panel of this unit is selected.

■ "DIGITAL INPUT" terminals of this unit

These terminals are protected by the dust-protection caps to avoid damage by the dust, etc.
Remove the caps only when the "DIGITAL INPUT" terminals are to be used.
When these terminals are not being used, attach the caps as shown in the illustration below.





4 Connect the flat cables.

4-1 Connect the 3-core flat cable (included with the tuner).

4-2 Connect the 8-core flat cable (included with the cassette tape deck).

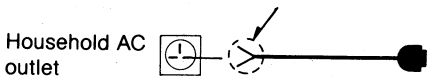
4-3 Connect the 4-core flat cable (included with the cassette tape deck).

5 Connect the AC power supply cords.

5-1

① Connect this cord only after all other cables and cords have been connected.

② Fit a suitable plug to an AC power supply cord.



5-2

If the cord is to be connected to the household AC outlet, cut off and dispose of the plug and replace with a suitable plug.

Note:

If the graphic equalizer is not used in combination with these components, connect the AC power supply cord of the compact disc player to the AC outlet of the amplifier. If the compact disc player is not used in combination with these components, connect the AC power supply cord of the cassette tape deck to the AC outlet of the graphic equalizer.

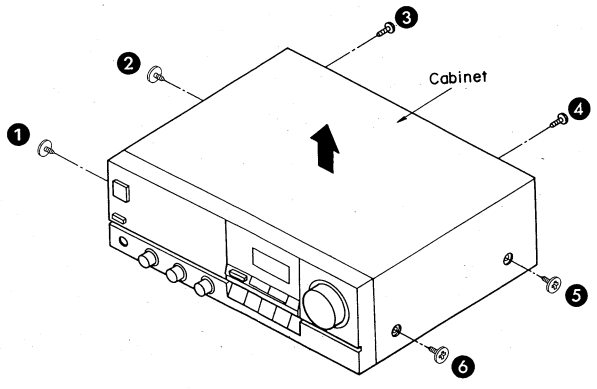
■ About the AC outlets of the each components

Do not connect video-related equipment (such as a TV, etc.) to the AC outlets of these components. (These outlets are especially for audio equipment.) Also do not exceed the indicated power ratings when connecting to these outlets.

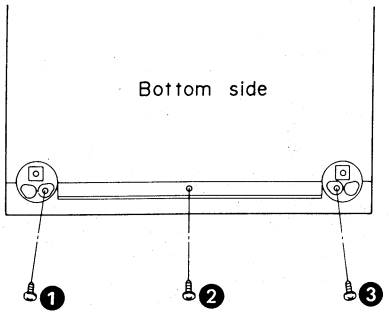
- **"SWITCHED" outlets** (For tuner, this unit, cassette tape deck)
  Power is controlled by the power switch of each unit.
- **"UNSWITCHED" outlets** (For compact disc player, graphic equalizer)
  Power is always available, regardless of power switch setting.

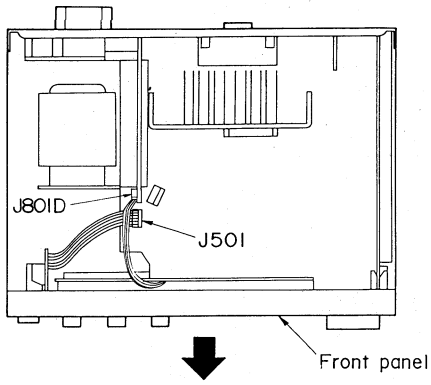
■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Removal of the cabinet
Procedure 1	•Remove the 6 screws (❶~❻).



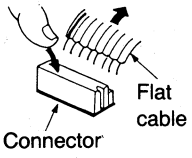
Ref. No. 2	Removal of the front panel
Procedure 1→2	1. Remove the 3 screws (❶~❸). 2. Remove the flat cable (J501). 3. Pull out the 1 connector (J801D). 4. Remove the front panel in the direction of the arrow.



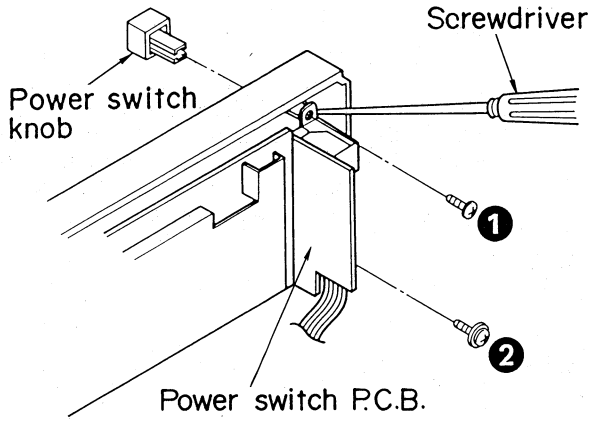


Removal of the flat cable

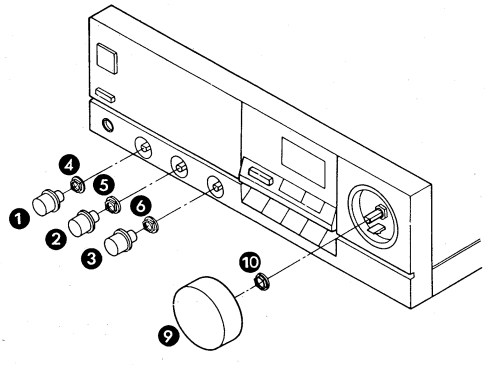
Pull out the flat cable while pressing the connector.



Ref. No. 3	Removal of the power switch P.C.B.
Procedure 1→2→3	1. Remove the power switch knob by pushing it from behind the front panel. 2. Remove the 2 screws (❶, ❷).

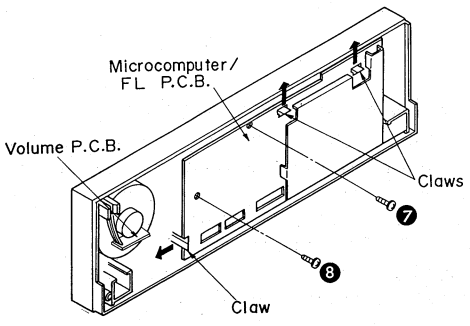


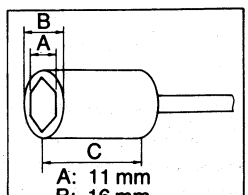
Ref. No. 4	Removal of the microcomputer/ FL P.C.B. and volume P.C.B.
Procedure 1→2→4	Removal of the volume P.C.B. 1. Remove the 1 knob (❾). 2. Remove the 1 nut (❿).



Removal of the microcomputer/FL P.C.B.

1. Remove the 3 knobs (❶~❸).
2. Remove the 3 nuts (❹~❻).
3. Remove the 2 screws (❼, ❽).
4. Push the 3 claws and remove the microcomputer/FL P.C.B.





A: 11 mm
B: 16 mm
C: longer than 18 mm

•Use a wrench of the dimensions shown in the illustration above to remove nuts.

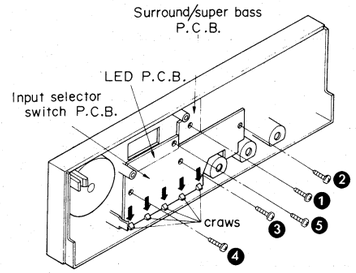
Ref. No. 5 — Removal of the surround/super bass P.C.B., input selector switch P.C.B. and LED P.C.B.

Procedure 1→2→4→5

Removal of the surround/super bass P.C.B.
- Remove the 1 screw (❶).

Removal of the input selector switch P.C.B.
1. Remove the 3 screws (❷~❹).
2. Push the 5 claws and remove the input selector switch P.C.B.

Removal of the LED P.C.B.
- Remove the 1 screw (❺).



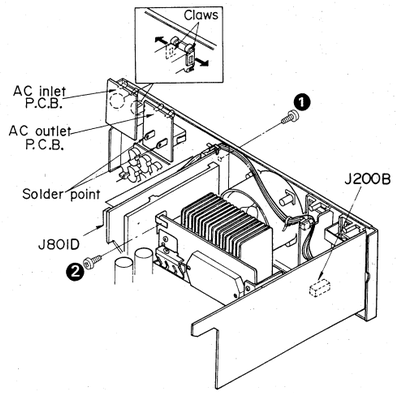
Ref. No. 6 — Removal of the digital input P.C.B. AC outlet P.C.B. and AC inlet P.C.B.

Procedure 1→6

Removal of the digital input P.C.B.
1. Pull out the 2 connectors (J200B, J801D).
2. Remove the 2 screws (❶, ❷).

Removal of the AC inlet P.C.B.
- Pull out the 2 claws in the direction of the arrow.

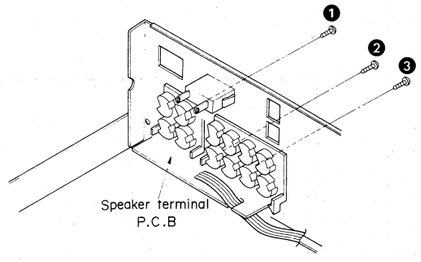
Removal of the AC outlet P.C.B.
- Unsolder the 2 terminals.



Ref. No. 7 — Removal of the speaker terminal P.C.B.

Procedure 1→6→7

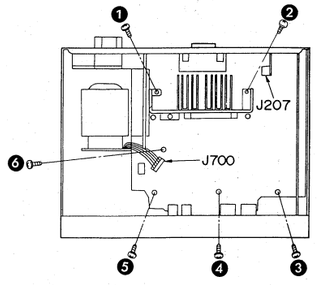
- Remove the 3 screws (❶~❸).

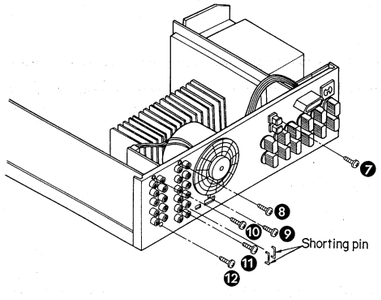


Ref. No. 8 — Checking of the main P.C.B.

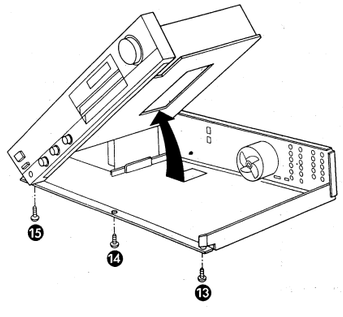
Procedure 1→6→8

1. Remove the 6 screws (❶~❻).
2. Remove the flat cable (J207, J700).





3. Remove the 6 screws (❼~⓬).
4. Remove the shorting pin.
5. Pull out the 1 connector (J207).

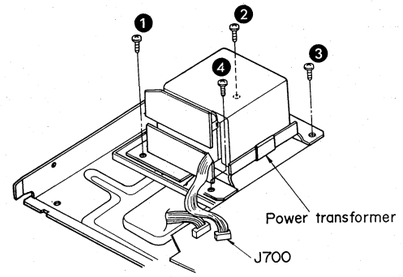


6. Remove the 3 screws (⓭~⓯).

Ref. No. 9 — Removal of the power transformer

Procedure 1→6→8→9

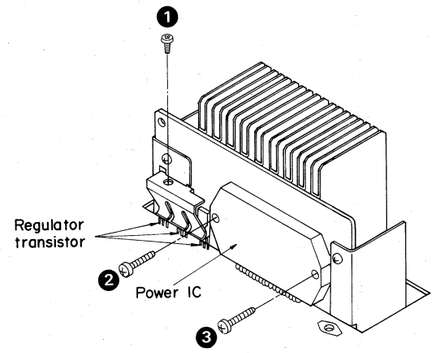
1. Remove the 4 screws (❶~❹).
2. Remove the flat cable (J700).



Ref. No. 10 — Removal of the power IC and regulator transistor

Procedure 1→8→10

1. Unsolder the power IC or regulator transistor.
2. Remove the 3 screws (❶~❸).

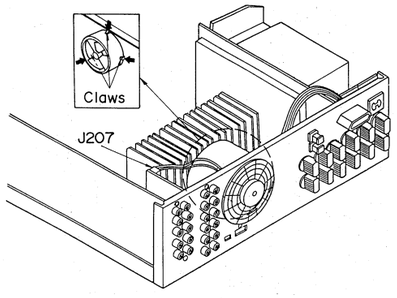


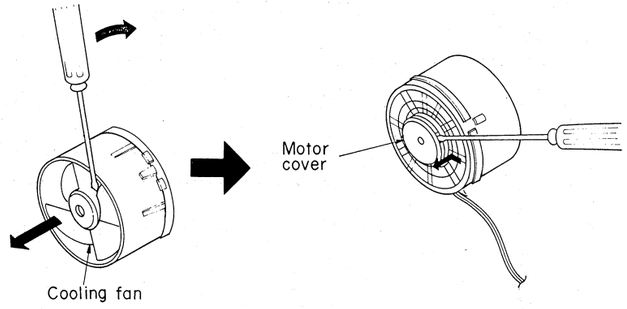
- **When mounting the power IC or regulator transistor.**
  Apply silicone compound (SZZOL15) to the rear side of power IC or regulator transistor.

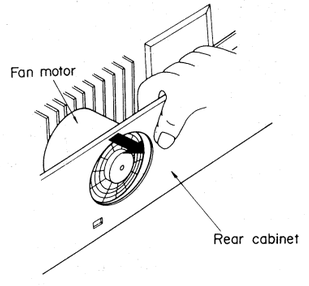
Ref. No. 11 — Removal of the fan motor

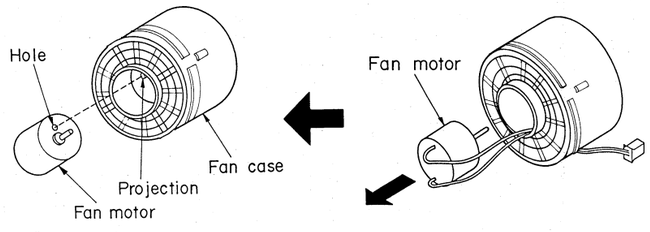
Procedure 1→11

1. Pull out the 1 connector (J207).
2. Remove the 3 claws.
3. Insert a screwdriver at the root of the cooling fan. Force it out of the motor shaft.
4. Remove the motor cover by used ⊖ screwdriver.
5. Remove the motor from the fan casing.
6. When mounting the motor fan, align the fan casing's projection with the hole of the fan motor.



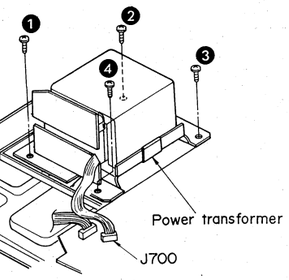






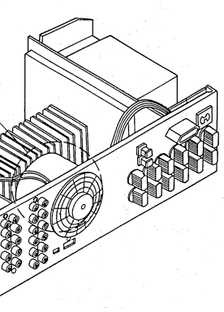
oval of the power transformer

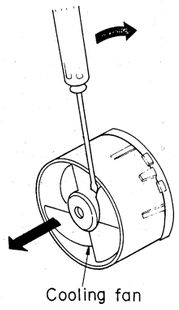
move the 4 screws (❶~❹).
move the flat cable (J700).

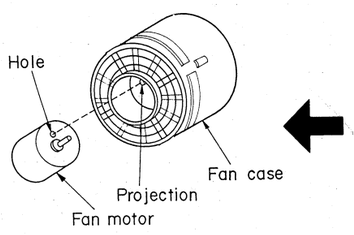


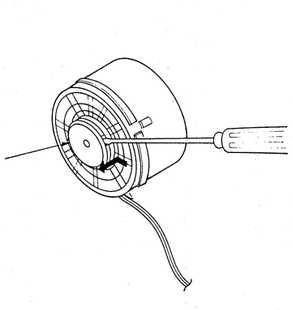
oval of the fan motor

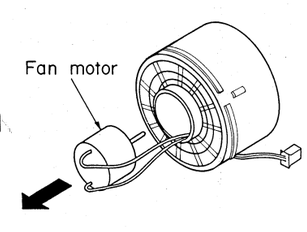
ll out the 1 connector (J207).
move the 3 claws.



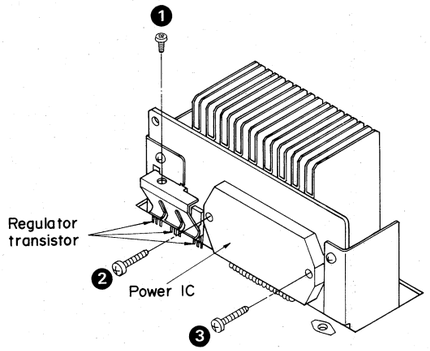








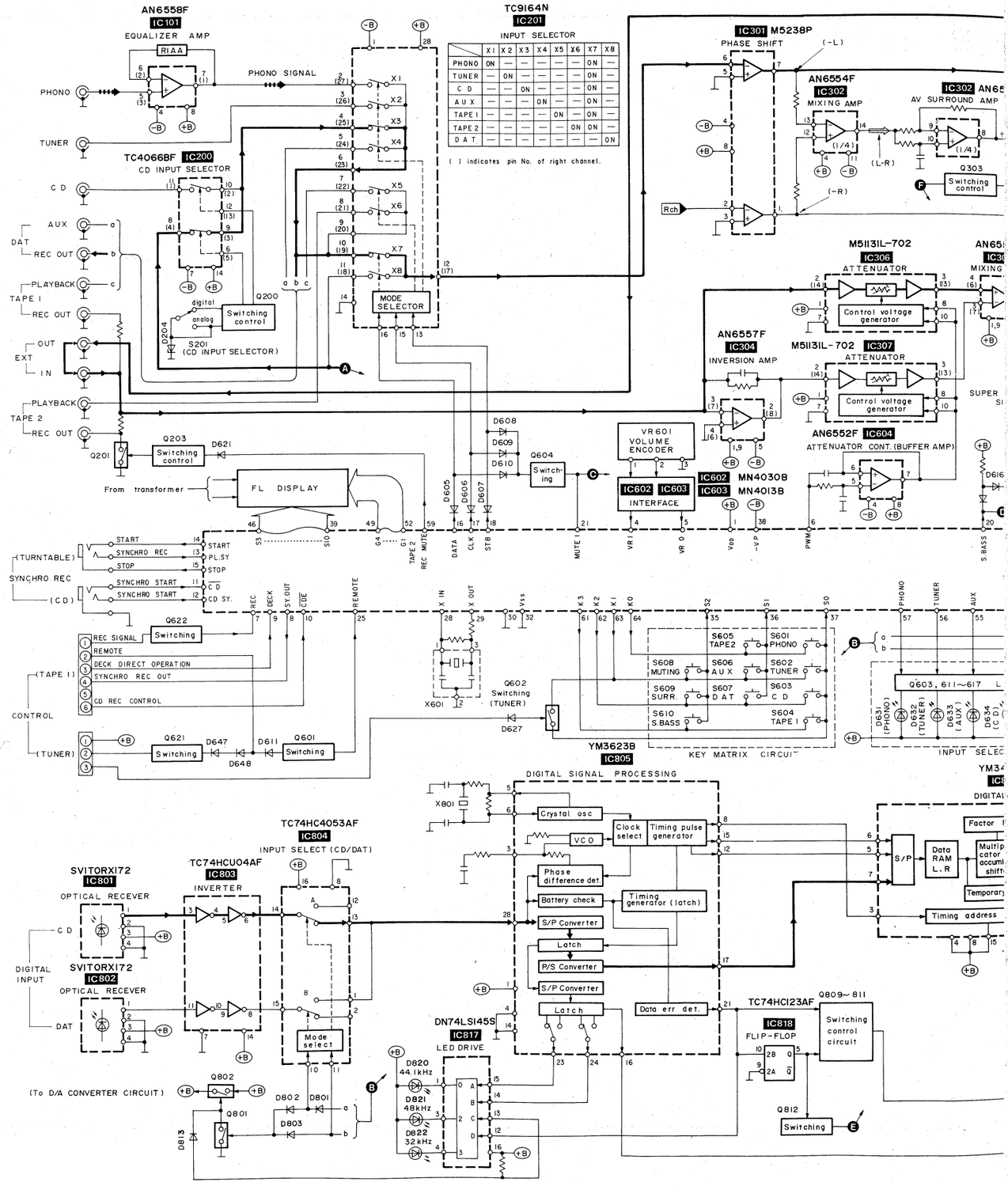
Ref. No. 10	Removal of the power IC and regulator transistor
Procedure 1→8→10	1. Unsolder the power IC or regulator transistor. 2. Remove the 3 screws (❶~❸).



- **When mounting the power IC or regulator transistor.**
  Apply silicone compound (SZZOL15) to the rear side of power IC or regulator transistor.

3. Insert a screwdriver at the root of the cooling fan. Force it out of the motor shaft.
4. Remove the motor cover by used ⊖ screwdriver.
5. Remove the motor from the fan casing.
6. When mounting the motor fan, align the fan casing's projection with the hole of the fan motor.

■ BLOCK DIAGRAM



TC9164N
IC201
INPUT SELECTOR

	X1	X2	X3	X4	X5	X6	X7	X8
PHONO	ON	—	—	—	—	—	ON	—
TUNER	—	ON	—	—	—	—	ON	—
C D	—	—	ON	—	—	—	ON	—
A U X	—	—	—	ON	—	—	ON	—
TAPE 1	—	—	—	—	ON	—	ON	—
TAPE 2	—	—	—	—	—	ON	ON	—
D A T	—	—	—	—	—	—	—	ON

( ) indicates pin No. of right channel.

IC301 M5238P
PHASE SHIFT
AN6554F
IC302
MIXING AMP
IC302 AN6554F
AV SURROUND AMP
AN6558F
IC303
BUFFER AMP
IC302 AN6554F
MIXING
(PHASE DIFFERENCE)
Q303
Switching control
Q301
PHASE DIFFERENCE SIGNAL
N.F
M5113IL-702
IC306
ATTENUATOR
AN6557F
IC305
MIXING AMP
AN6558F
IC403
TONE AMP
Treble
Bass
VR403
BALANCE
Q407
Q409
Muting control
AN6557F
IC304
INVERSION AMP
M5113IL-702 IC307
ATTENUATOR
Control voltage generator
AN6552F IC604
ATTENUATOR CONT. (BUFFER AMP)
SUPER BASS SIGNAL
IC402 AN6554F
PRE/H.P.FILTER AMP
Q403
Switching control
Q401
Q406
Switching control
Q404
D616
VR601
VOLUME
ENCODER
IC602 IC603
INTERFACE
IC602 MN4030B
IC603 MN4013B
Q604
Switching
D608
D609
D610
D605
D606
D607
M50754-411SP
IC601
MICRO COMPUTER
S605 TAPE2
S601 PHONO
S608 MUTING
S606 AUX
S602 TUNER
S609 SURR.
S607 DAT
S603 CD
S610 S.BASS
S604 TAPE 1
Q603, 611~617 LED DRIVE CIRCUIT
D631 (PHONO)
D632 (TUNER)
D633 (AUX)
D634 (CD)
D635 (DAT)
D636 (TAPE 1)
D637 (TAPE 2)
D638 (MUTING)
D639 (SURROUND)
D640 (SUPER BASS)
Q618 LED DRIVE
Q619 LED DRIVE
D613
Q602
Switching (TUNER)
X601
D627
KEY MATRIX CIRCUIT
INPUT SELECTOR IND. CIRCUIT
FAN MOTOR
Q502,503
Motor drive
D505
D511
S501 (SPEAKERS)
SYSTEM A
SYSTEM B
SPEAKERS
Lch
Rch
SURROUND
SVI3204
IC501
POWER AMP
Bias
Short det.
Mute det.
DC det.
AC det.
Q501
Relay drive
RLY501
HEADPHONES
AN78M05R
IC701
D707
Regu-lator
Q705
Q701, D705
Q702, D706
Q704, D714
D619
D711
Q703
D710
D709
D701~704
RECT.
T700
F1
S700
(POWER)
AC IN
F2
AC OUTLET
(UNSWITCHED)
TO FL DISPLAY
YM3623B
IC805
DIGITAL SIGNAL PROCESSING
Crystal osc
Clock select
Timing pulse generator
VCO
Phase difference det.
Battery check
Timing generator (latch)
S/P Converter
Latch
P/S Converter
S/P Converter
Latch
Data err det.
X801
YM3404B
IC806
DIGITAL FILTER
Factor ROM
Buffer
S/P
Data RAM L, R
Multiplicator accumulater shifter
Over flow limiter
P/S
Temporary RAM
Timing address control
PCM56P-L
IC807 (IC808)
D/A CONVERTER
16 bit latch
16 bit D A C
16 bit slial/parael
Control logic level shift
MN6636S
IC812
DEGLITCH
LM833M63
IC813
BUFFER AMP
SVIH8DN2041B
IC815
L.P. FILTER AMP
SVIBA4560F
IC814
FILTER AMP
SVIH8DN2041B
IC816
L.P. FILTER AMP
Q803
Q804
Q805
Q806
DN74LS145
IC817
LED DRIVE
TC74HC123AF
IC818
FLIP-FLOP
Q809~811
Switching control circuit
Q812
Switching
IC809 (IC810) TC74HC164AF
IC811 TC74HC00AF
8 BIT SHIFT REGISTER /NAND GATE
Q808
Muting drive
Q807
Emphasis drive

SU-X977 SU-X977

■ SCHEMATIC DIAGRAM

(Parts list on page 27~31)

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- **•S201** : CD input selector switch in **"digital"** position.
- **•S501** : Speaker selector switch in **"A"** position.
- **•S601~S607** : Input selector switches.
  S601: Phono, S602 : Tuner, S603 : CD, S604 : Tape 1
  S605; Tape 2, S606 : AUX, S607 : DAT,
- **•S608** : Audio muting selector switch.
- **•S609** : Surround selector switch.
- **•S610** : Super bass switch.
- **•S700** : Power source switch in **"on"** position.
- **•S701** : Voltage selector switch in **"220 V"** position (**110 V/ 127 V/220 V/240 V**) For (G) area only.

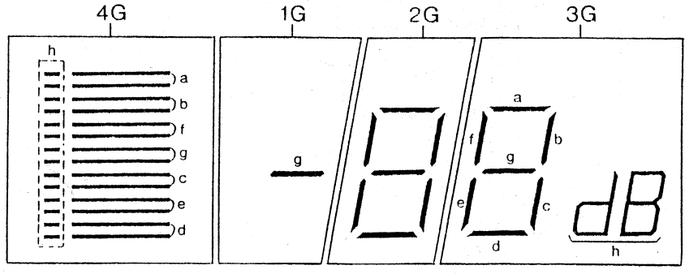
CD • Phono signal line
Phase difference signal
Positive voltage line
Recording signal
Super bass signal
Negative voltage line

- •Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- •Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

•Caution!
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care furing repair.
•Cover the parts boxes made of plastics with aluminum foil.
•Ground the soldering iron.
•Put a conductive mat on the work table.
•Do not touch the legs of IC or LSI with the fingers directly.

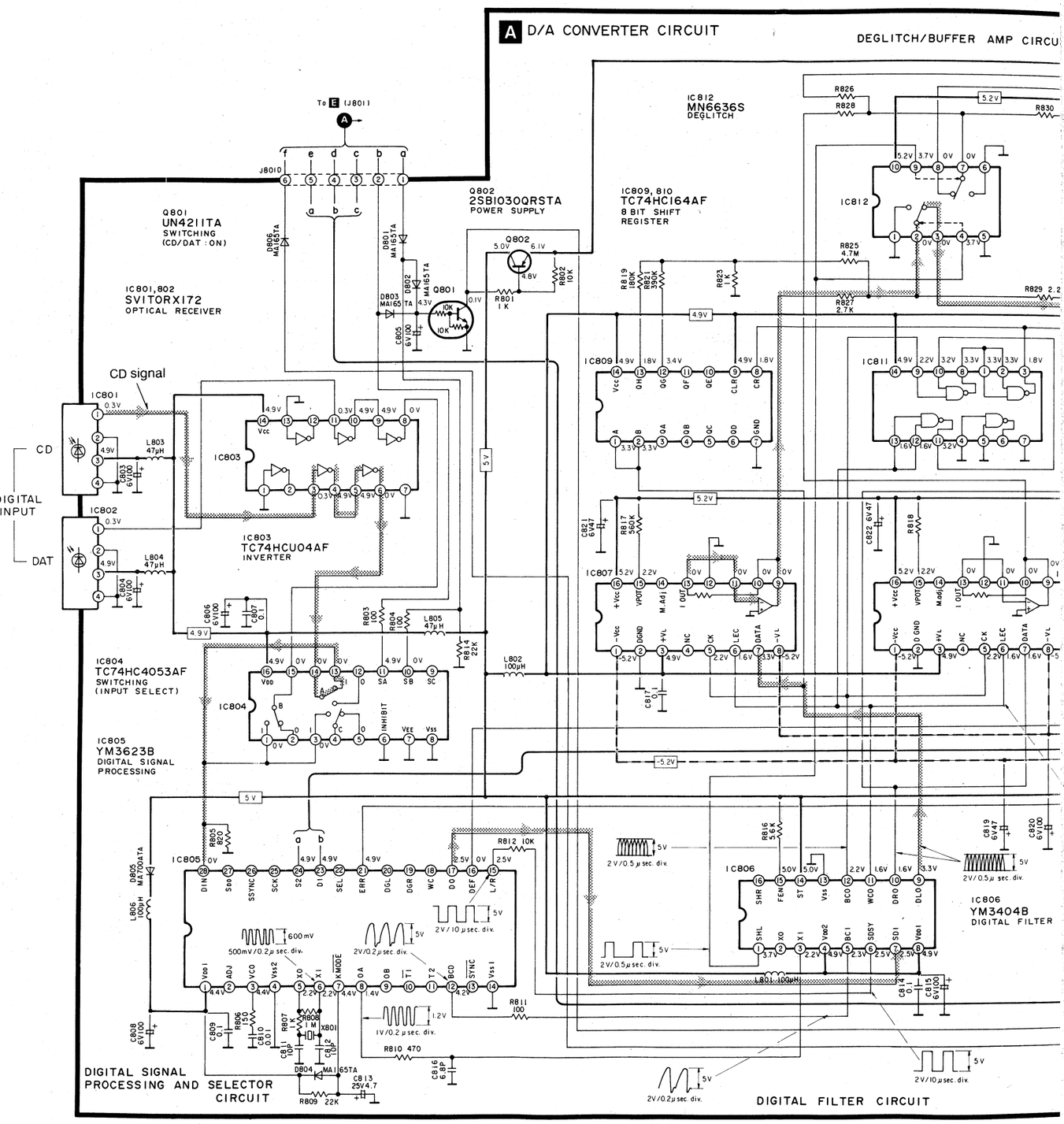
■ DESCRIPTION OF FL PANEL

•GRID ASSIGNMENT



•PIN CONNECTION

Pin No.	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	F 2	F 2	N P	a	4 G	b	c	d	1 G	e	f	2 G	g	3 G	N P	h	3 G	N P	F 1	F 1



CONVERTER CIRCUIT

DEGLITCH/BUFFER AMP CIRCUIT

IC813
LM833M63
BUFFER AMP

IC812
MN6636S
DEGLITCH

IC809, 810
TC74HC164AF
8 BIT SHIFT
REGISTER

AUDIO AMP CIRCUIT

IC814
SVIBA4560F
BUFFER AMP

IC815, 816
SVIH8DN2041B
LOW PASS FILTER

Q807
UN4111TA
EMPHASIS
DRIVE

Q803, 804
2SC3311AQSTA
EMPHASIS DRIVE

IC815
LOW PASS FILTER

Q805, 806
2SD1450RSTTA
MUTING

Q811
2SA1309AQSTA
SWITCHING

IC816
LOW PASS FILTER

Q808
UN4111TA
MUTING CONT.

IC811
TC74HC00AF
NAND GATE

IC807, 808
PCM56P-L
D/A CONVERTER

D/A CONVERTER CIRCUIT

IC818
TC74HC123AF
FLIP-FLOP

Q809
Q810

Q809, 810
UN4211TA
SWITCHING

IC806
YM3404B
DIGITAL FILTER

IC817
DN74LS145S
LED DRIVE

Q812
2SA1309AQSTA
SWITCHING

DIGITAL FILTER CIRCUIT

LED DRIVE CIRCUIT

B PHONO EQ. AMP/ATTENUATOR/SURROUND AMP/
INPUT SELECTOR CIRCUIT

Phono signal (Lch)

For (EG) area.

PHONO
TUNER
CD
AUX
DAT

IC101
AN6558F
EQ AMP

PHONO EQ. AMP CIRCUIT

R109, 110 { 47K ··· For others.
56K ··· For (EG) area.

Recording Signal

IC200
TC4066BF
CD INPUT SELECTOR

Q200
2SC3311AQS
SWITCHING

IC306
M5113L-7
ATTENUATO

IC304
AN6557F
BUFFER AM

S201
(CD INPUT SELECTOR)

EXT. INPUT
TAPE 1 PLAYBACK
TAPE 2 PLAYBACK
RECOUT

Q201, 202
2SC3311AQSTA
MUTING

Q203
DTA114ESTP
MUTING
CONTROL

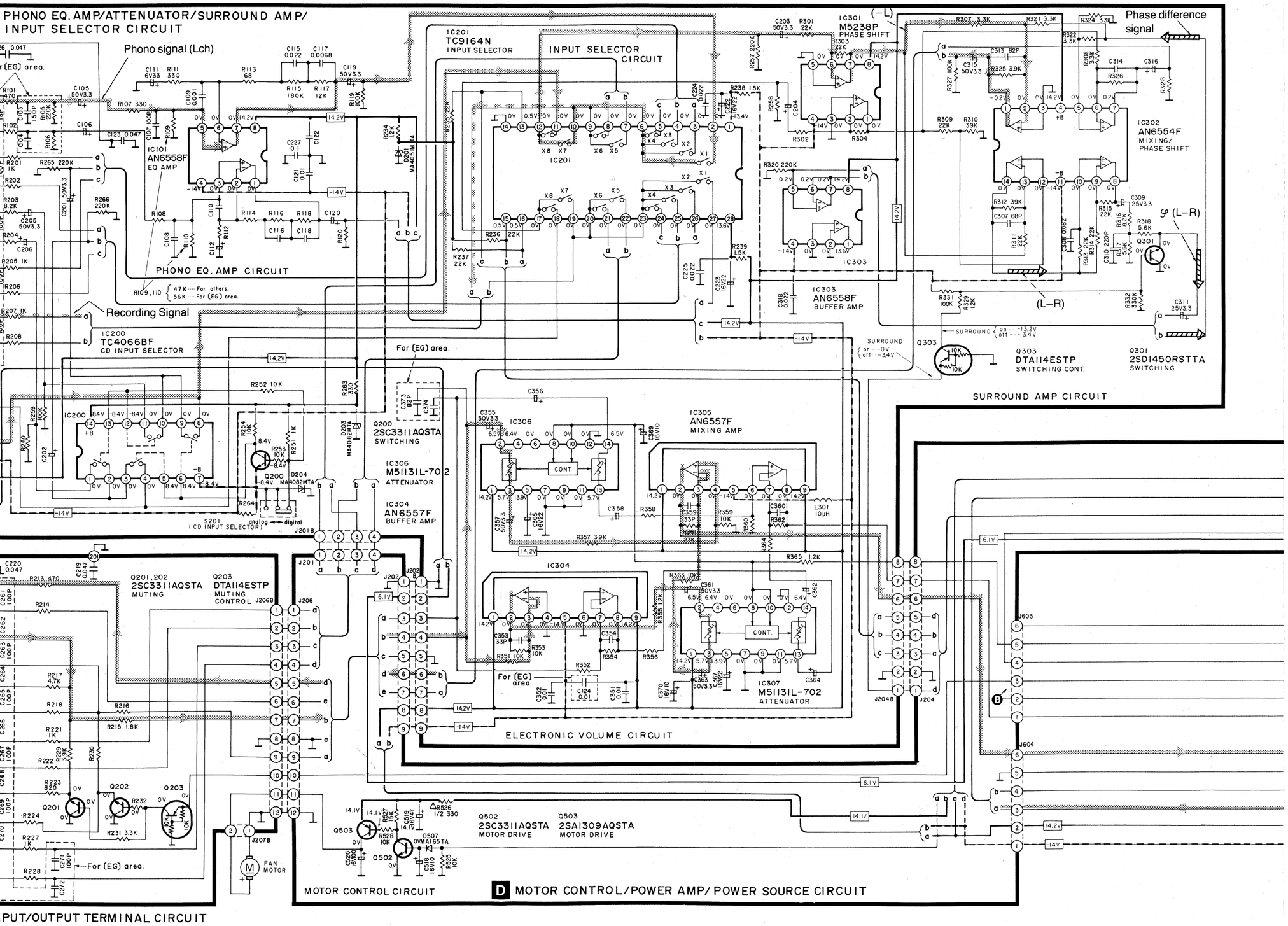
Q202

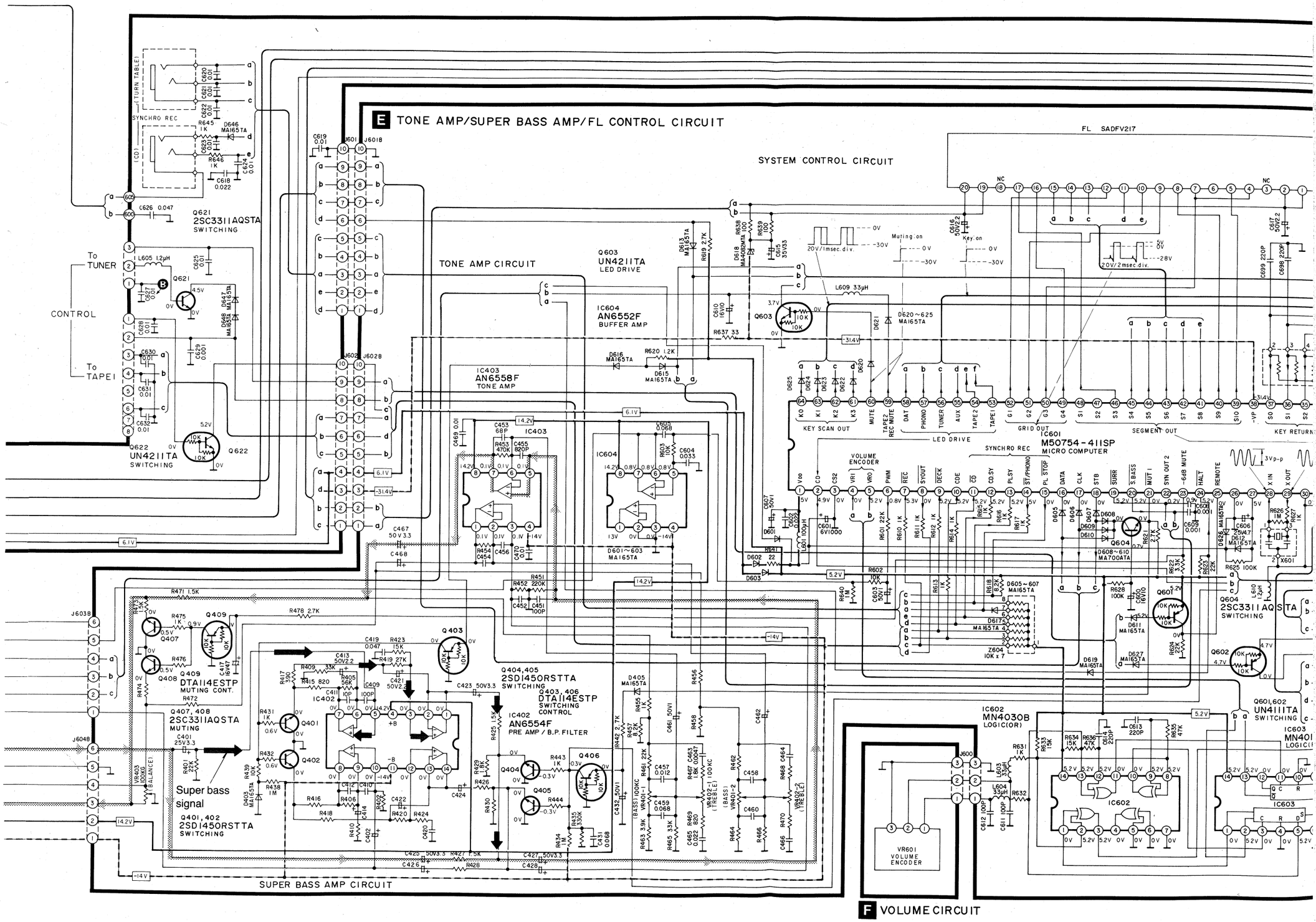
FAN MOTOR

MOTOR CONTROL CIRCUIT

C INPUT/OUTPUT TERMINAL CIRCUIT

15 16 17 18 19 20 21 22




E TONE AMP/SUPER BASS AMP/FL CONTROL CIRCUIT
SYSTEM CONTROL CIRCUIT
TONE AMP CIRCUIT
SUPER BASS AMP CIRCUIT
F VOLUME CIRCUIT
FL SADFV217
IC601 M50754-411SP MICRO COMPUTER
IC403 AN6558F TONE AMP
IC604 AN6552F BUFFER AMP
IC402 AN6554F PRE AMP / B.P. FILTER
Q603 UN4211TA LED DRIVE
Q621 2SC3311AQSTA SWITCHING
Q622 UN4211TA SWITCHING
Q409 DTA114ESTP MUTING CONT.
Q407,408 2SC3311AQSTA MUTING
Q401,402 2SD1450RSTTA SWITCHING
Q404,405 2SD1450RSTTA SWITCHING
Q403,406 DTA114ESTP SWITCHING CONTROL
Q601,602 UN4111TA SWITCHING
Q604 2SC3311AQSTA SWITCHING
IC602 MN4030B LOGIC(OR)
IC603 MN401 LOGIC(
VR601 VOLUME ENCODER
Super bass signal
Muting:on
Key:on
20V/1msec.div.
20V/2msec.div.
KEY SCAN OUT
LED DRIVE
GRID OUT
SEGMENT OUT
KEY RETURN
SYNCHRO REC
To TUNER
To TAPE1
CONTROL

30 31 32 33 34 35 36 37 38 39

G LED CIRCUIT

FL SADFV217

D820~822 LN038417PI

D820 44.1kHz) D821 (88.2kHz) D822 (176.4kHz)

To A (J801D)

J609 J801

R800 270

5.2V

C617 470/22

C699 220P C698 220P

5V 0V 20V/2msec.div. -28V

-44V 0V 2V/1ms.div.

Z603 10K x 4

-31.4V

GRID OUT SEGMENT OUT KEY RETURN IN

IC601 M50754-411SP MICRO COMPUTER

SYNCHRO REC CD CD SY PLSY ST/PHONO PL STOP DATA CLK STB SURR S BASS MUT I SYN OUT 2 -6dB MUTE HALT REMOTE X IN X OUT

3Vp-p 5Vp-p 4V 0V 20V/2msec.div. -30V

X601

C697 0.47

J606 J605

J607

D641 MA165TA D642 MA165TA D644 MA165TA D645 D649

D645,649 MA165TA (MUTING)

Q611~617 UN4211TA LED DRIVE

D631~633,636,637 LN846RP-C

D634,635 LN0202RP2

D638 LN873RP-LS

Q611 D631 (PHONO) Q612 D632 (TUNER) Q613 D633 (AUX) Q614 D634 (CD) Q615 D635 (DAT) Q616 D636 (TAPE1) Q617 D637 (TAPE2)

Q618,619 UN4111TA LED DRIVE

Q618 Q619

TAPE2 PHONO TAPE1 AUX TUNER DAT CD MUTING

S605 S601 S606 S602 S608 S607 S603 S604

J608

D639 (SURROUND) D640 (SUPER BASS) S609 SURROUND S610 S.BASS

D639,640 EVQQLY07K (with S609,610)

IC602 MN4030B LOGIC(OR)

IC603 MN4013B LOGIC(F-FLOP)

H INPUT SELECT SWITCH/LED DRIVE CIRCUIT

I SURROUND/SUPER BASS SWITCH CIRCUIT

POWER AMP CIRCUIT

R506 1.8K ··· For others. 2.2K ··· For (G) area.

R502 2.2K ··· For others. 1.8K ··· For (G) area.

C509, 510 150P ··· For others. 270P ··· For (EG) area.

R505 1.8K ··· For others. 2.2K ··· For (GN) area.

R513 2.2K ··· For others. 1.8K ··· For (GN) area.

Power on relay on 0V 4sec

For (EG) area.

C516 0.01

R501 2.2K C501 50V3.3 C523 0.001 R513 C505 16V22 R503 56K C503 680P C504 R504 56K C502 R502 6V330 C513 R505

C507 6.8P L501 R507 56K R509 1/2 10 C510 C509 IC501

R506 C514 C524 R514

MUTE DET. AC DET.

-52.2V -6.3V 5.0V -5.0V 0V -9.8V 0V -0.2V -14V

R515 47K C514 50V0.22 C515 6V33 R519 22K

C508 R508 C506

For (EG) area. C516 0.01

IC501 SV13204 POWER AMP

Q501 2SA992EFP RELAY DRIVE

C511 0.047 C521 0.047 R511 1/2 10 L502 R510 RLY501 D502 MA4120MTA D503 MA4120MTA D505 MA167TA D506 MA167TA R523 2W1K R524 2W1K R593 2W1K R596 D511 MA167TA D512 MA167TA

C522 R512 C512 -0.8V -1.9V Q501 0V R520 3W1K

-51V

c 14.2V a 14.1V b d

J Power switch/speakers switch/headphones jack circuit

For (EG) area. C597 220P C598

HEADPHONES S501 (SPEAKERS) B A

R518 R517 2W330

C700 0.01 S700 (POWER)

20 a 21 b

J501 7 6 5 4 3 2 1

K SPEAKER TERMINAL CIRCUIT

For (EG) area.

J502 L505 C554 0.00 C563 0.022 L506 C562 C564 L507 C565 0.001 C567 0.022 L508 C566 C568

L ch R ch SYSTEM A (8~16Ω) SPEAKERS L ch R ch SURROUND (8~16Ω) L ch R ch SYSTEM B (8~16Ω)

Q701,705 2SD1265OPQ REGULATOR

TC701 -14V R706 1/2W10 6.1V C714 50V1 C707 16V22 D707 MA165TA 1.2V 7.6V

Q705 14.2V 51V 14.5V R701 1/2W 2.2 C703 0.01 R712 680K R713 150K

Q701 14.1V 14.5V 51V R705 33K C705 16V47 C706 16V47 D705 D706 R703 6.8K D705,706 MA4140MTA C701 6800 D703 SVD1220 D701 SVD1220

Q703 7.6V 10K 0V -0.7V 6.1V

Q702 -14.5V -14V -51V C708 16V22 C704 0.01 R704 8.2K R702 1/4W 3.3 C702 6800 D704 SVD1220 D702 SVD1220

IC701 AN78M05R REGULATOR

Q703 UN4211TA SWITCHING

a b c d

D711 MA165TA R708 6.8K D710 MA167TA D709 MA167TA R707 2.2K C710 50V4.7

Q704 -31.4V -49.3V R710 1/2W 330 R711 2.7K -32V C712 35V10 C711 35V10 D704 MA3300MTA

Q702 2SB941PQR REGULATOR

Q704 2SB621AQRSTA REGULATOR

POWER SOURCE CIRCUIT

J700 5 4 3 2 1 T700 AC 2V AC 40V AC 40V C709 C716 0.01 703 For (EG) area. C715 0.047

(UNSWITCHED)

37 38 39 40 41 42 43 44

/SPEAKERS SWITCH/
ACK CIRCUIT

S501
PEAKERS)

△C700 0.01
△S700 (POWER)

K SPEAKER TERMINAL CIRCUIT

For (EG) area.

J502

L505
C561 0.001
C563 0.022
L506
C562
C564

L507
C565 0.001
C567 0.022

L508
C566
C568

L ch
R ch
SYSTEM A (8~16Ω)
SPEAKERS
L ch
R ch
SURROUND (8~16Ω)
L ch
R ch
SYSTEM B (8~16Ω)

R712 680K
R713 1.5K
R701 1/2W 2.2
C701 63V6800
D703 SV053V20
D701 SV053V20
R703 6.8K
C703 0.01
D704 SV053V20
D702 SV053V20
R704 8.2K
C702 63V6800
C704 0.01
R702 1/4W 3.3
-51V
D709 MA167TA
R707 2.2K
C709 0.01
C716 0.01
J700
AC 2V
AC 40V
AC 40V
△T700
For (EG) area.
C715 0.047

Q705
2650PQ
LATOR
51 V
Q705
4.5V
05,706
4140MTA
041PQR
LATOR
MA167TA

L AC IN/AC OUTLET TERMINAL CIRCUIT

△F1 T1.6A
△F2 T2A
(UNSWITCHED)
△AC OUTLET
AC 220V (50/60Hz)

Power Source For (EB,GN) areas.

△T700
△F1 T1.6A
(SWITCHED)
△AC OUTLET
AC 240V (50/60Hz)
For (EB) area.

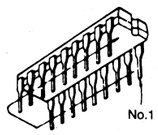
Power Source For (G) area.

△T700
△S701 (VOLTAGE ADJ.)
110V 220V 240V 127V
△F2 T1.6A
△F1 T3.15A
(UNSWITCHED)
△AC OUTLET
AC 110/127/220/240V (50/60Hz)

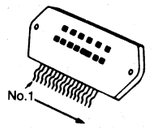
SU-X977 SU-X977

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

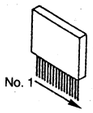
AN6552F AN6558F TC4066BF M5238P SVILM833M SVIBA4560F	8 pin	TC74HC4053AF TC74HC123F DN74LS145S SM5807ES PCM56P-L	16 pin
MN6636S	10 pin	TC9164N YM3623B	28 pin
AN6554 MN4030B MN4013B TC74HCU04F	14 pin	M50754-411SP	64 pin



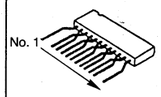
SV13204 | 18 pin



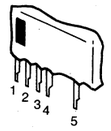
AN78M05R | 4 pin



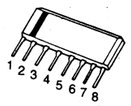
M51131L-702



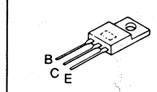
SVIH8DN2041B



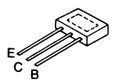
AN6557F



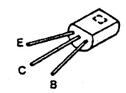
2SD1265-P
2SB941PQR



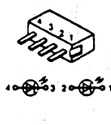
2SC3311A-Q, UN4111
2SA1309AQS, UN4211
2SD1450R
DTA114ESTP
2SB1030Q



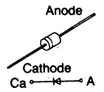
2SB621A-R
2SA992E



LN0202RP2

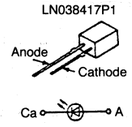


MA167
MA29WA
MA165
MA700A

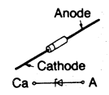


SVDS3V40

LN846RP-C
LN873RP-LS
LN038417P1

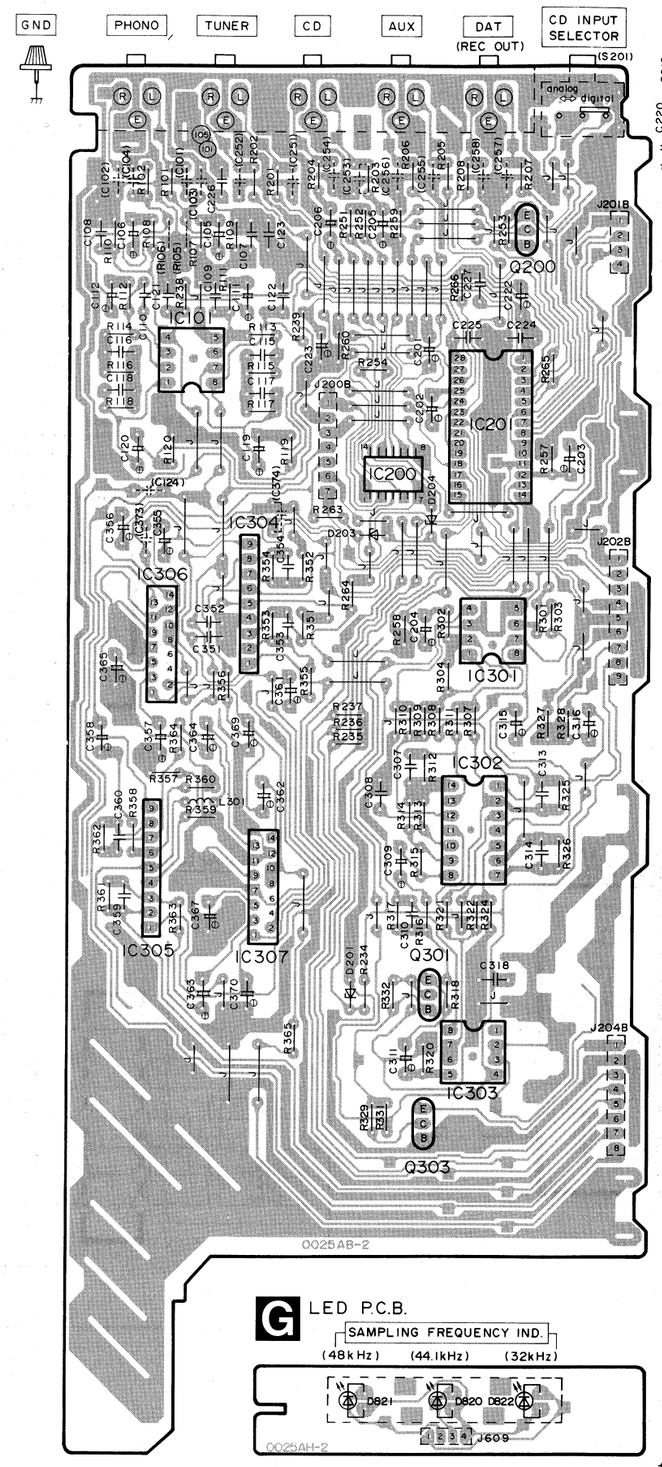


MA4051, MA4120
MA4082M, MA4140M,
MA4300M

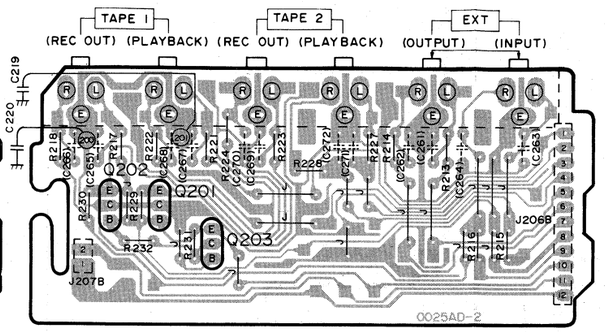


■ PRINTED CIRCUIT BOARDS (Parts list on page 27~31)

B PHONO EQ. AMP/ATTENUATOR/SRROUND AMP/ INPUT SELECTOR P.C.B.

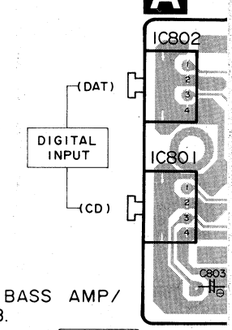


C INPUT/OUTPUT TERMINAL P.C.B.

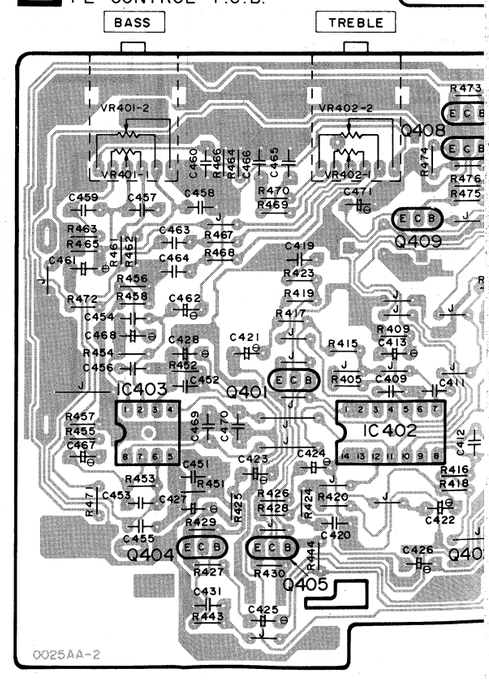


Note:
--|+|--(C) } Capacitors and Resistors indicated by (C) or (R) area.
------(R) } used only in the EG(F.R.Germany/ Italy) area.

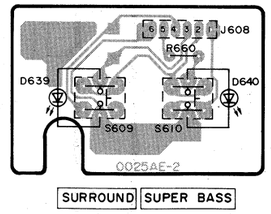
D/A CONVERTER P.C.B.



E TONE AMP/SUPER BASS AMP/ FL CONTROL P.C.B.

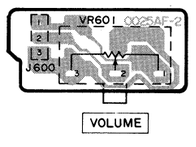


I SURROUND/SUPER BASS SWITCH P.C.B.



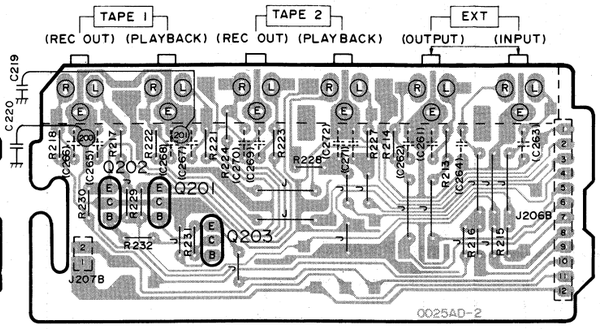
G LED P.C.B.

F VOLUME P.C.B.



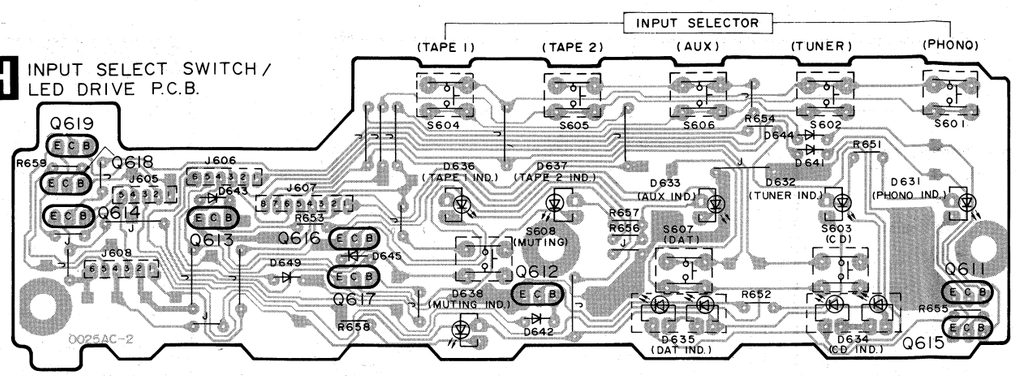
(List on page 27~31)

C INPUT/OUTPUT TERMINAL P.C.B.

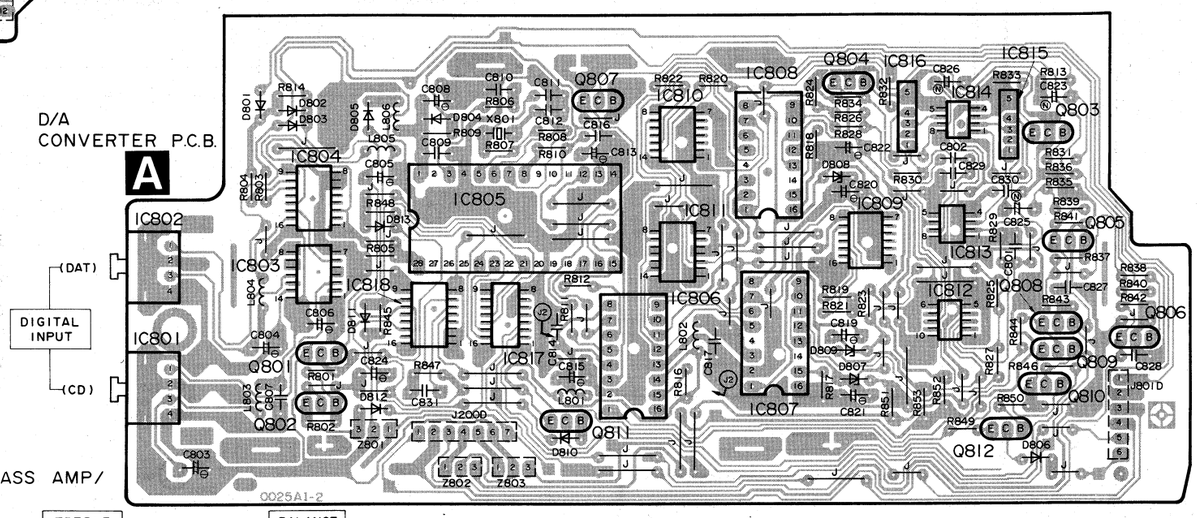


Note :
--||--(C) } Capacitors and Resistors indicated by (C) or (R) area. used only in the EG(F.R.Germany / Italy) area.
------(R) }

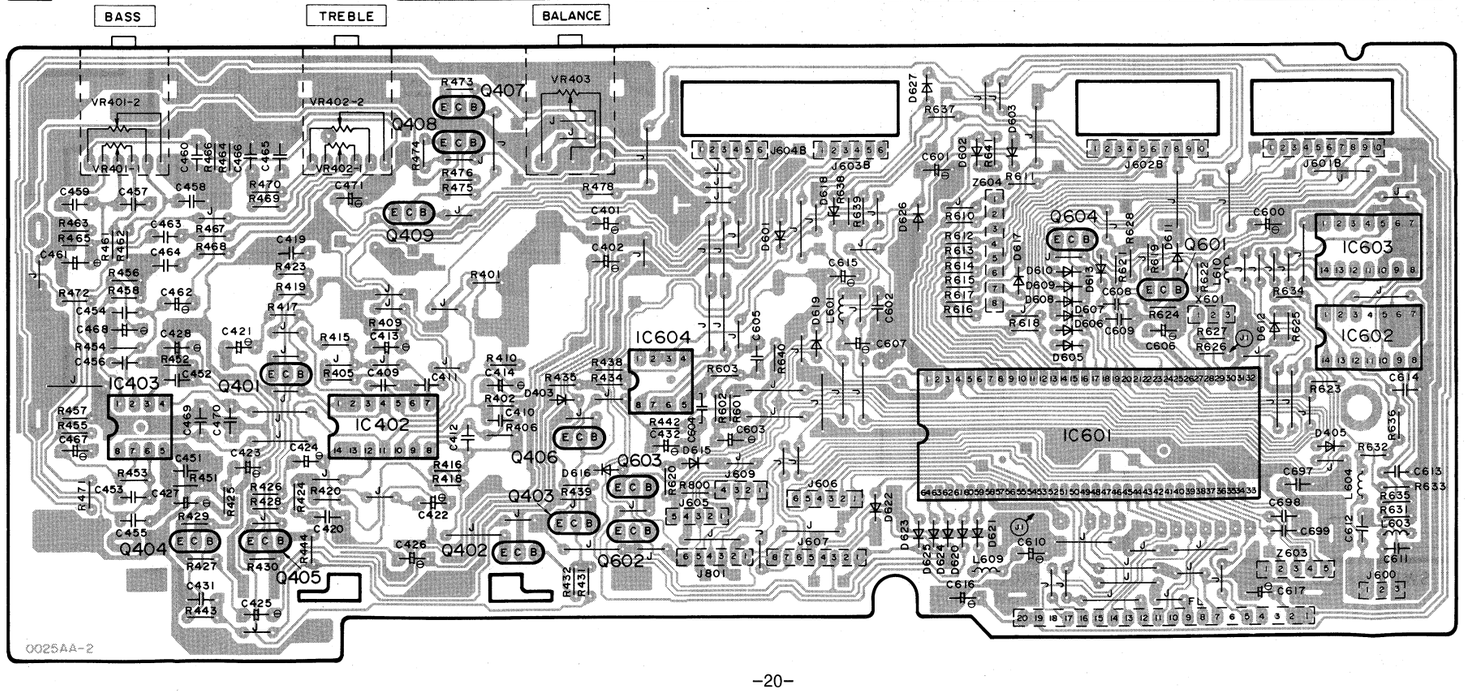
H INPUT SELECT SWITCH / LED DRIVE P.C.B.



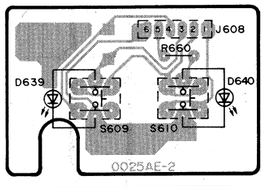
D/A CONVERTER P.C.B. A



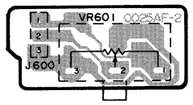
E TONE AMP/SUPER BASS AMP/ FL CONTROL P.C.B.



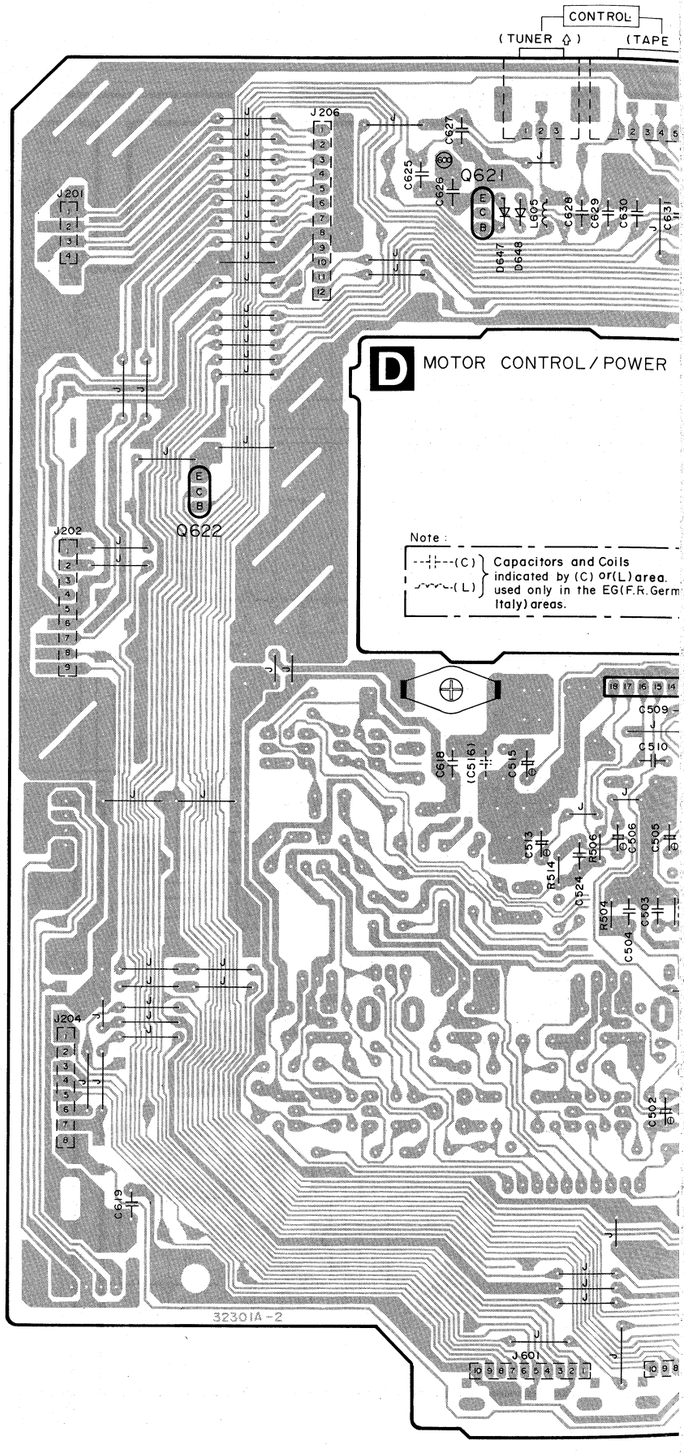
I SURROUND/SUPER BASS SWITCH P.C.B.



F VOLUME P.C.B.

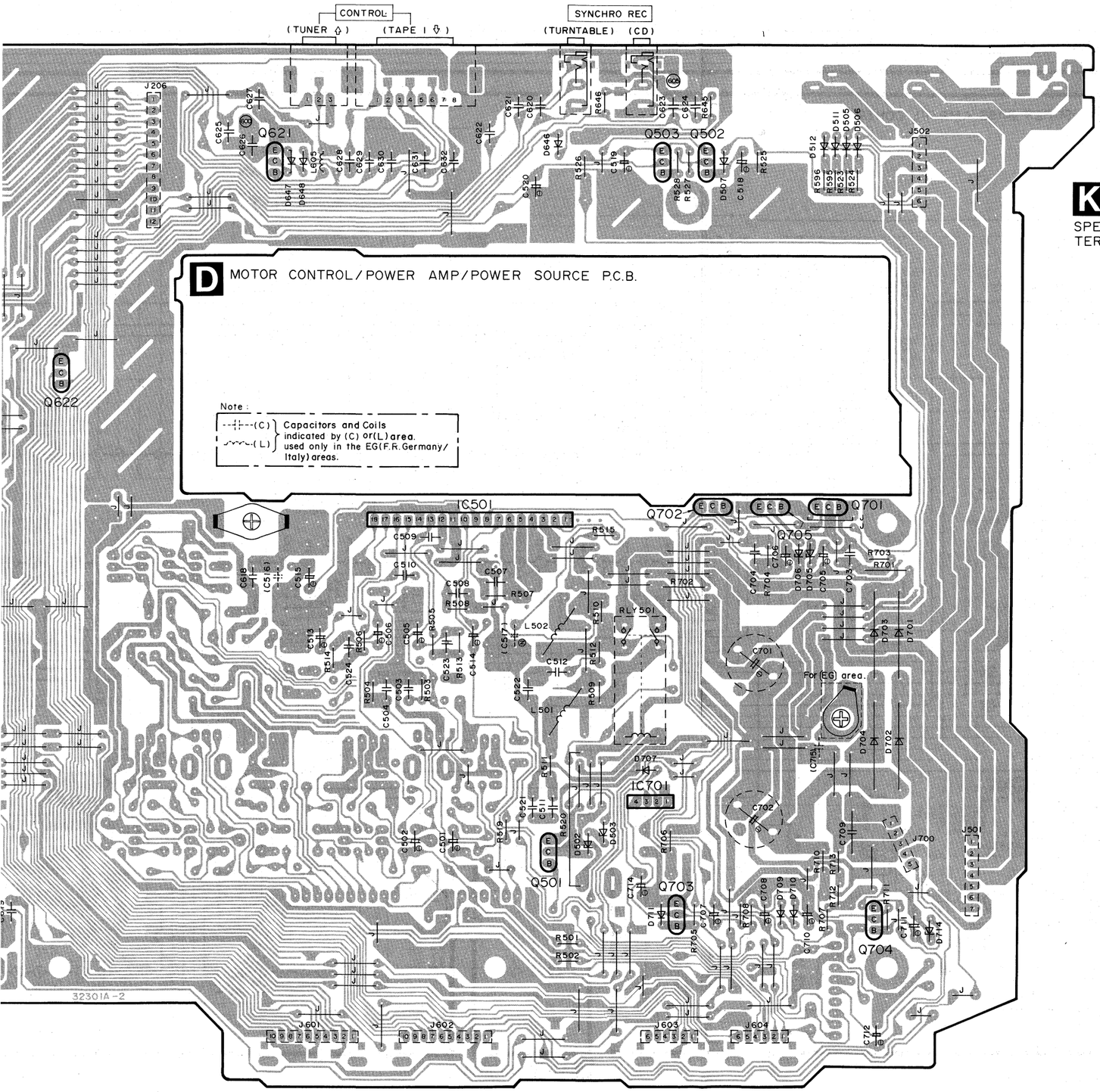


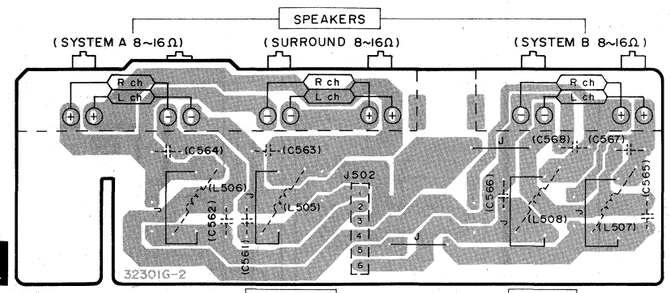
D MOTOR CONTROL / POWER

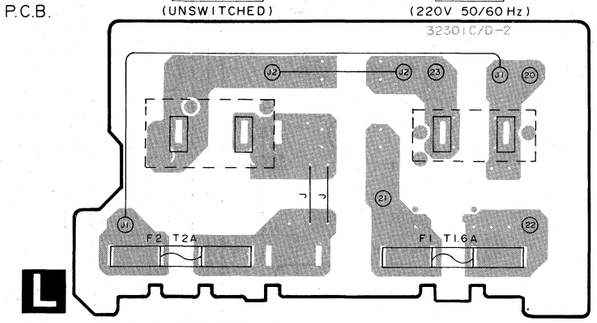


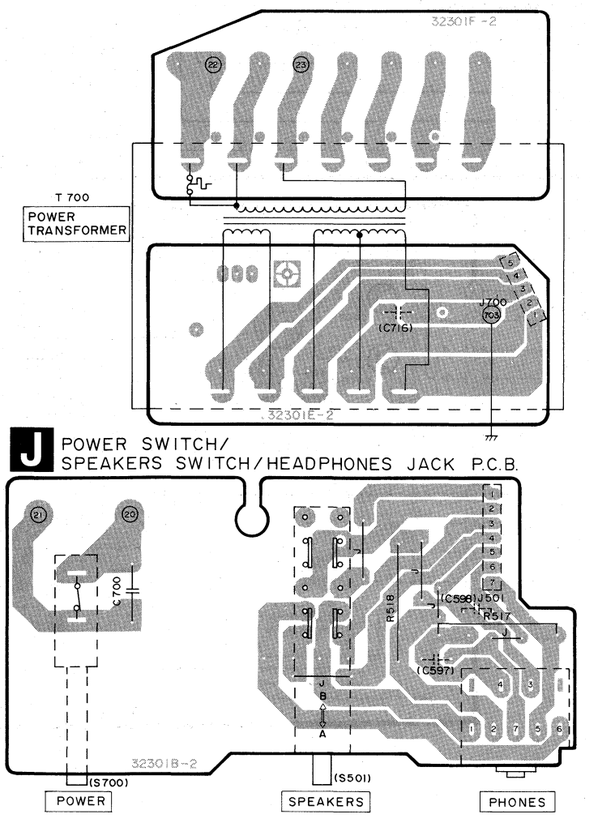
Note :
--||--(C) } Capacitors and Coils indicated by (C) or (L) area. used only in the EG(F.R.Germany / Italy) areas.
------(L) }

12 13 14 15 16 17 18 19 2



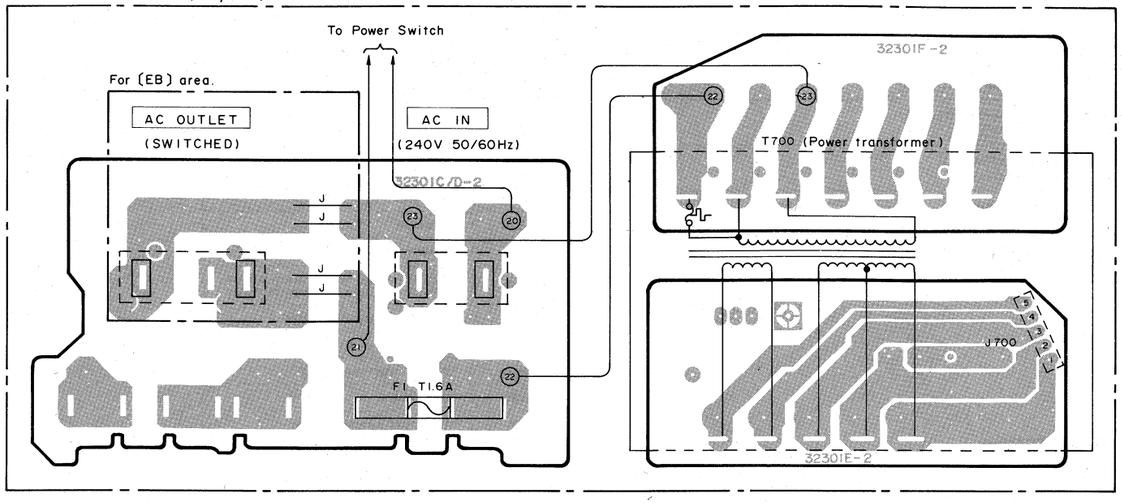




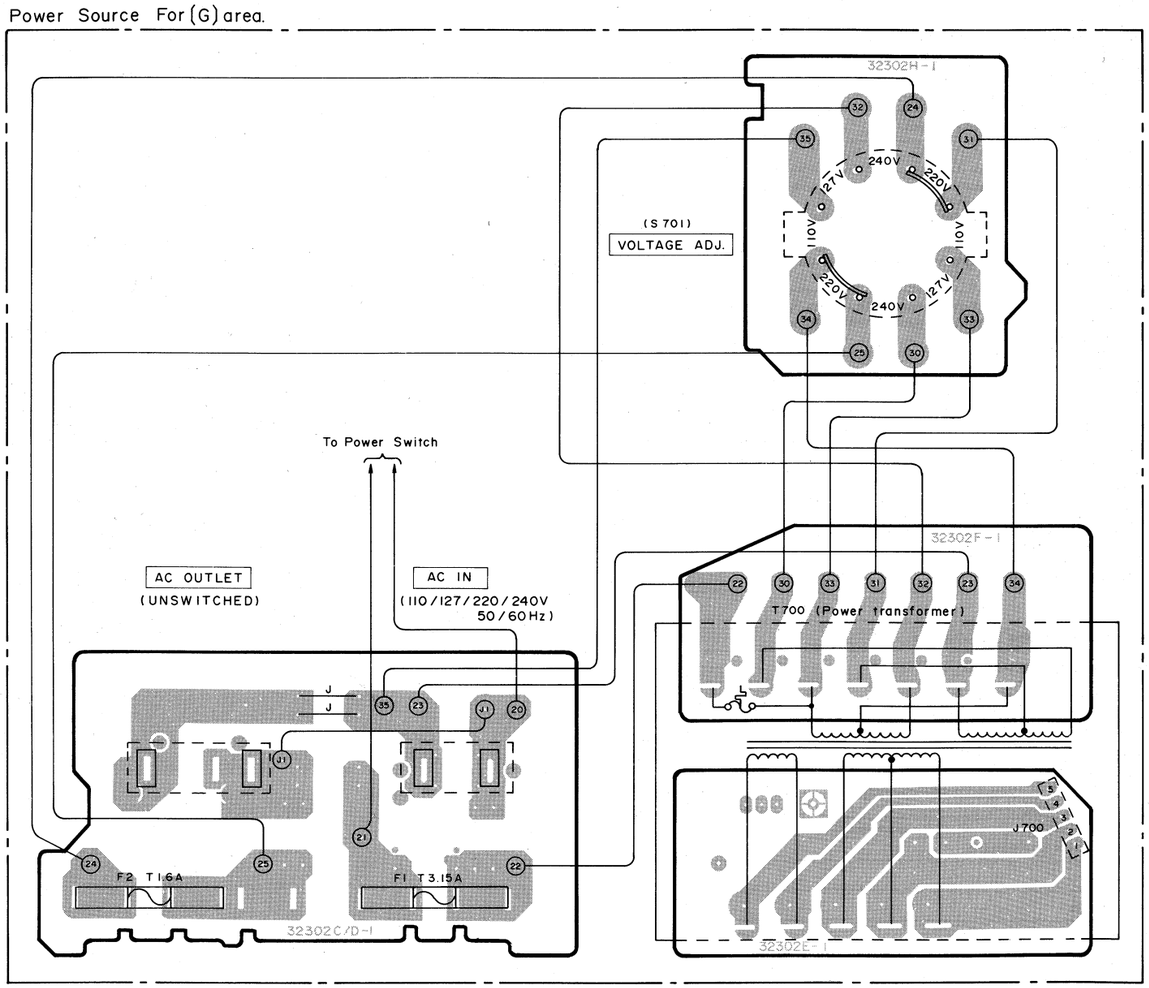


21 | 22 | 23 | 24 | 25

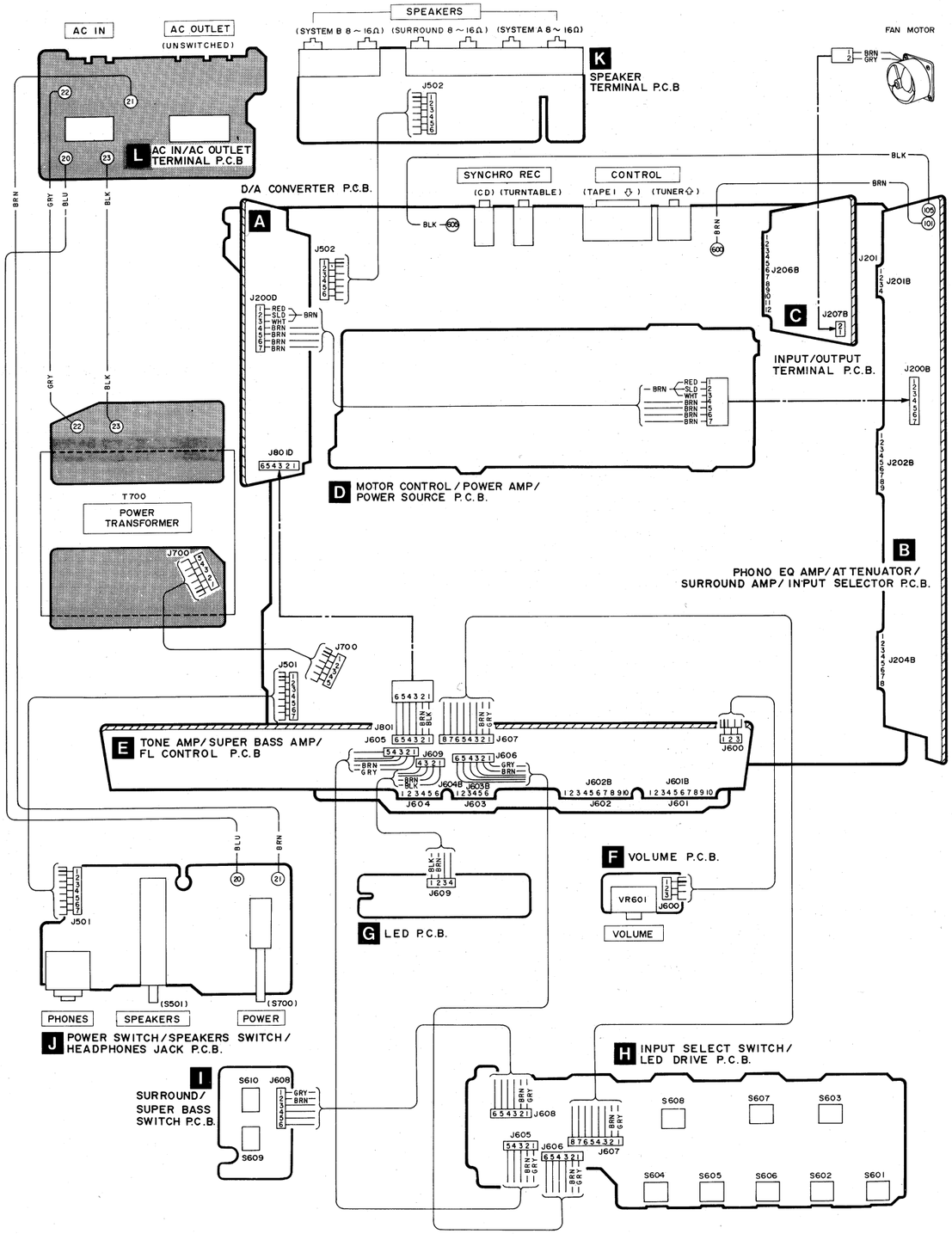
Power Source For (EB, GN) areas.



Power Source For (G) area.



■ WIRING CONNECTION DIAGRAM



■ FUNCTIONS OF IC TERMINALS

•IC601 (M50754-411SP) MICRO COMPUTER

Pin No.	I/O	Terminal Name	Function
1	I	V_{DD}	To be connected to a power supply.
2	O	LCD	This is the output terminal for the LED selector indicator of the CD player. At a "HI" level ..... the LED lights up.
3	——	CS2	For ground connection.
4	I	VR1	These are the terminals for the rotary encoder of the volume of VR601.
5		VR0	
6	O	PWM	This terminal outputs the signal for the control of the volume and balance
7	I	$\overline{REC}$	This is the terminal for the detection of recording on the deck.
8	O	SY OUT	This is the terminal for synchro recording on the deck.
9	I	$\overline{DECK}$	This is the terminal for direct operations on the deck.
10	I	CDE	Outputs the signal for the control of CD editing.
11	I	$\overline{CD}$	These are the terminals for the start of synchronization on the CD unit.
12		CD. SY.	
13	I	PL. SY.	These are the terminals for sync recording on the player.
14	O	PL. START	
15	O	PL. $\overline{STOP}$	
16	O	DATA	CLK: This terminal outputs the clock signal for reading serial data. DATA: This terminal outputs the serial data. STB: This terminal outputs the pulse for the control of the setting of the analog switch. The serial data inputted into IC201 is latched by the STB pulse and the switch is set to ON according to data.
17		CLK	
18		STB	
19	O	$\overline{SURR}$	Outputs the signal for the control of SURROUND. At a "LOW" level ..... SURROUND is ON.
20	O	S. $\overline{LOUD}$	Outputs the signal for the control of SUPER DYNAMIC SOUND. At a "LOW" level ..... SUPER DYNAMIC SOUND is ON.
21	O	$\overline{MUT}$ 1	Outputs the signal for the control of muting.
22	——	SYN OUT 2	Unused.
23	O	MUTE	Outputs the −6 dB signal for the control of attenuated muting.
24	I	$\overline{HALT}$	This is the terminal for the detection of power supply.
25	I	REMOTE	Inputs data from the remote controller.
26	——	CN VSS	For ground connection.
27	I	$\overline{RESET}$	This terminal inputs the reset signal.
28	I	X IN	These are the I/O terminals for the oscillating clock signal.
29	O	X OUT	
30	——	X_C IN	Unused.
31		X_C OUT	
32	——	V_{SS}	For ground connection.
33	——	NC	Unused.
35 ~ 37	O	S0 ~ S2	These are the key matrix terminals for input selection.
61 ~ 64	I	K0 ~ K3	
38	I	V_P	The signal which pulls down the voltage is inputted into this terminal.
39 ~ 46	O	S3 ~ S10	These terminals output the signals for the control of the multi-digital display.
49 ~ 52		G0 ~ G3	
53	O	L TAPE	Outputs the signal for the control of the TAPE LED. At a "HI" level ..... the LED lights up.
54	O	L VTR	Outputs the signal for the control of the VTR LED. At a "HI" level ..... the LED lights up.
55	O	L VD	Outputs the signal for the control of the VD LED. At a "HI" level ..... the LED lights up.

I \ O	35	36	37
61	SUPER DYNAMIC SOUND	——	TAPE
62	SURROUND	DAT	CD
63	MUTING	VD	TUNER
64	——	VTR	PHONO

Pin No.	I/O	Terminal Name	Function
56	O	L TUNER	Outputs the signal for the control of the TUNER LED. At a "HI" level ..... the LED lights up.
57	O	L PHONO	Outputs the signal for the control of the PHONO LED. At a "HI" level ..... the LED lights up.
58	O	L DAT	Outputs the signal for the control of the DAT LED. At a "HI" level ..... the LED lights up.
59	O	VTR REC MUTE	Outputs the signal for muting the VTR recording.
60	O	L MUTE	Outputs the signal for the control of the MUTING LED. At a "HI" level ..... the LED lights up.

•IC806 (YM3623B) DIGITAL INTERFACE RECEPTION

(PU) terminals are "pulled up".

Pin No.	Terminal Name	I/O	Function
1	VDD1	——	This is the power connection terminal (+5 V).
2	ADJ	I	This terminal is for the adjustment of the VCO oscillation frequency, but it is not used in this unit.
3	VCO	I/O	This is the external condenser terminal for the VCO circuitry.
4	VSS2	——	This is the ground connection terminal of the system.
5	XO	O	This is the output terminal for the crystal vibrator (16.9344 MHz).
6	XI	I	This is the input terminal for the crystal vibrator.
7	KMODE	I (PU)	At a high level...the PLL circuitry is activated when the DIN terminal receives an input signal. Otherwise, the crystal vibrator is activated. At a low level...the crystal vibrator is activated, regardless of the DIN terminal input.
8	ØA	O	This terminal outputs a 16.9344-MHz frequency when the crystal vibrator functions. When the PLL circuitry is activated, the frequency varies according to the speed of input data of the DIN terminal (fs=about 16.9344 MHz when it is 44.2 kHz).
9	ØB	O	The frequency of this terminal is divided into a third of that of terminal ØA when the crystal vibrator functions. When the PLL circuitry is activated, the frequency varies according to the speed of input data of the DIN terminal (fs=about 16.9344 when it is 44.2 kHz).
10	T1	I (PU)	This is the input terminal for checking the internal circuitry.
11	T2	I (PU)	This is the input terminal for checking the internal circuitry.
12	BCO	O	Used to output the time-clock signal from the DO terminal.
13	SYNC	O	Used to output the synchronization signal.
14	VSS1	O	This is the ground connection terminal of the system (+0 V).
15	L/R	O	At a high level...data on the left channel is output from the DO terminal. At a low level...data on the right channel is output from the DO terminal.
16	DEF	O	At a high level...input data is emphasized. At a low level...input data is not emphasized.
17	DO	O	Outputs 16-bit data.
18	WC	O	This is the terminal for checking data output to the DO terminal.
19	DIGR	O	This terminal outputs the signal for the right channel.
20	DIGL	O	This terminal outputs the signal for the left channel.
21	ERR	O	Error detection terminal. H=Error is found during parity check L=No errors
22	SEL	I (PU)	
23	S1	O	
24	S2	O	
25	SCK	O	Terminal for the clock-signal of the sub code output.
26	SSYNC	O	For the signal of the sub code.
27	SDO	O	For the output of sub code data.
28	DIN	I (PU)	For the input of data.

Input SEL	Output S1	Function	Output S2	Function
L	L	Copying is not possible	L	DC (except DAT)
	H	Copying is possible	H	DAT
H	L		L	The sampling frequency of the DIN input signal is 44.1 kHz.
	L		H	48 kHz
	H		H	32 kHz
	H		L	——

•IC806 (YM3404B) Digital filter

Pin No.	Mark	I/O	Function
1	SHL	O	1DAC(ST="L"): Lch Deglitcher signal 2DAC(ST="H"): L/Rch Deglitcher signal
2	X0	O	Clock output
3	X1	I	Clock input.
4	VDD2	I	Power supply (connected to +5V)
5	BCI	I	Bit clock input (input data)
6	SDSY	I	R/L signal
7	SDI	I	Data input
8	VDD1	I	Power supply (connected to +5V)
9	DLO	O	1DAC(ST="L"): L/Rch data output terminal 2DAC(ST="H"): Lch data output terminal
10	RDO	O	Rch data output (not connected)
11	WCO	O	Output data word clock
12	BCO	O	Bit clock output (output data)
13	VSS	I	GND terminal
14	ST	I	1DAC/2DAC selector terminal
15	FEN	I	System clock selector terminal
16	SHR	O	1DAC(SP="L"): Rch deglitch signal

■ RESISTORS AND CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique
ECEA	50	M	330	
Type	Voltage (50V)	Characteristics	Value (33μF)	

- Capacity values are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
- Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 −20 %
ECQM	: Polyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)		
R101	ERDS2TJ471	470 1/4
R102	ERDS2TJ471	470 1/4
R105 (EG)	ERDS2TJ224	220K 1/4
R106 (EG)	ERDS2TJ224	220K 1/4
R107	ERDS2TJ331	330 1/4
R108	ERDS2TJ331	330 1/4
R109 (E, E5, EB, G) (GN)	ERDS2TJ473	47K 1/4
R109 (EG)	ERDS2TJ563	56K 1/4
R110 (E, E5, EB, G) (GN)	ERDS2TJ473	47K 1/4
R110 (EG)	ERDS2TJ563	56K 1/4
R111	ERDS2TJ331	330 1/4
R112	ERDS2TJ331	330 1/4
R113	ERDS2TJ680	68 1/4
R114	ERDS2TJ680	68 1/4
R115	ERDS2TJ184	180K 1/4
R116	ERDS2TJ184	180K 1/4
R117	ERDS2TJ123	12K 1/4
R118	ERDS2TJ123	12K 1/4
R119	ERDS2TJ104	100K 1/4
R120	ERDS2TJ104	100K 1/4
R201	ERDS2TJ102	1K 1/4
R202	ERDS2TJ102	1K 1/4
R203	ERDS2TJ822	8.2K 1/4
R204	ERDS2TJ822	8.2K 1/4
R205	ERDS2TJ102	1K 1/4
R206	ERDS2TJ102	1K 1/4
R207	ERDS2TJ102	1K 1/4
R208	ERDS2TJ102	1K 1/4
R213	ERDS2TJ471	470 1/4
R214	ERDS2TJ471	470 1/4
R215	ERDS2TJ182	1.8K 1/4
R216	ERDS2TJ182	1.8K 1/4
R217	ERDS2TJ472	4.7K 1/4
R218	ERDS2TJ472	4.7K 1/4
R221	ERDS2TJ102	1K 1/4
R222	ERDS2TJ102	1K 1/4
R223	ERDS2TJ821	820 1/4
R224	ERDS2TJ821	820 1/4
R227	ERDS2TJ102	1K 1/4
R228	ERDS2TJ102	1K 1/4
R229	ERDS2TJ392	3.9K 1/4
R230	ERDS2TJ392	3.9K 1/4
R231	ERDS2TJ332	3.3K 1/4
R232	ERDS2TJ332	3.3K 1/4
R234	ERDS2TJ122	1.2K 1/4
R235	ERDS2TJ223	22K 1/4
R236	ERDS2TJ223	22K 1/4
R237	ERDS2TJ223	22K 1/4
R238	ERDS2TJ152	1.5K 1/4
R239	ERDS2TJ152	1.5K 1/4
R251	ERDS2TJ102	1K 1/4
R252	ERDS2TJ103	10K 1/4
R253	ERDS2TJ103	10K 1/4
R254	ERDS2TJ103	10K 1/4
R257	ERDS2TJ224	220K 1/4
R258	ERDS2TJ224	220K 1/4
R259	ERDS2TJ104	100K 1/4
R260	ERDS2TJ104	100K 1/4
R263	ERDS2TJ331	330 1/4
R264	ERDS2TJ331	330 1/4
R265	ERDS2TJ224	220K 1/4
R266	ERDS2TJ224	220K 1/4
R301	ERDS2TJ223	22K 1/4
R302	ERDS2TJ223	22K 1/4
R303	ERDS2TJ223	22K 1/4
R304	ERDS2TJ223	22K 1/4
R307	ERDS2TJ332	3.3K 1/4
R308	ERDS2TJ332	3.3K 1/4
R309	ERDS2TJ223	22K 1/4
R310	ERDS2TJ393	39K 1/4
R311	ERDS2TJ223	22K 1/4
R312	ERDS2TJ393	39K 1/4
R313	ERDS2TJ223	22K 1/4
R314	ERDS2TJ223	22K 1/4
R315	ERDS2TJ223	22K 1/4
R316	ERDS2TJ822	8.2K 1/4
R317	ERDS2TJ562	5.6K 1/4
R318	ERDS2TJ123	12K 1/4
R320	ERDS2TJ224	220K 1/4
R321	ERDS2TJ332	3.3K 1/4
R322	ERDS2TJ332	3.3K 1/4
R324	ERDS2TJ332	3.3K 1/4
R325	ERDS2TJ392	3.9K 1/4
R326	ERDS2TJ392	3.9K 1/4
R327	ERDS2TJ104	100K 1/4
R328	ERDS2TJ104	100K 1/4
R329	ERDS2TJ122	1.2K 1/4
R331	ERDS2TJ105	1M 1/4
R332	ERDS2TJ334	330K 1/4
R351	ERDS2TJ103	10K 1/4
R352	ERDS2TJ103	10K 1/4
R353	ERDS2TJ103	10K 1/4
R354	ERDS2TJ103	10K 1/4
R355	ERDS2TJ122	1.2K 1/4
R356	ERDS2TJ122	1.2K 1/4
R357	ERDS2TJ392	3.9K 1/4
R358	ERDS2TJ392	3.9K 1/4
R359	ERDS2TJ103	10K 1/4
R360	ERDS2TJ103	10K 1/4
R361	ERDS2TJ273	27K 1/4
R362	ERDS2TJ273	27K 1/4
R363	ERDS2TJ103	10K 1/4
R364	ERDS2TJ103	10K 1/4
R365	ERDS2TJ122	1.2K 1/4
R401	ERDS2TJ223	22K 1/4
R402	ERDS2TJ223	22K 1/4
R405	ERDS2TJ563	56K 1/4
R406	ERDS2TJ563	56K 1/4
R409	ERDS2TJ333	33K 1/4
R410	ERDS2TJ333	33K 1/4
R415	ERDS2TJ821	820 1/4
R416	ERDS2TJ821	820 1/4
R417	ERDS2TJ391	390 1/4
R418	ERDS2TJ391	390 1/4
R419	ERDS2TJ273	27K 1/4
R420	ERDS2TJ273	27K 1/4

Ref. No.	Part No.	Value.
R423	ERDS2TJ153	15K 1/4
R424	ERDS2TJ153	15K 1/4
R425	ERDS2TJ152	1.5K 1/4
R426	ERDS2TJ152	1.5K 1/4
R427	ERDS2TJ152	1.5K 1/4
R428	ERDS2TJ152	1.5K 1/4
R429	ERDS2TJ182	1.8K 1/4
R430	ERDS2TJ182	1.8K 1/4
R431	ERDS2TJ102	1K 1/4
R432	ERDS2TJ102	1K 1/4
R434	ERDS2TJ105	1M 1/4
R435	ERDS2TJ334	330K 1/4
R438	ERDS2TJ105	1M 1/4
R439	ERDS2TJ103	10K 1/4
R442	ERDS2TJ272	2.7K 1/4
R443	ERDS2TJ102	1K 1/4
R444	ERDS2TJ102	1K 1/4
R451	ERDS2TJ224	220K 1/4
R452	ERDS2TJ224	220K 1/4
R453	ERDS2TJ474	470K 1/4
R454	ERDS2TJ474	470K 1/4
R455	ERDS2TJ102	1K 1/4
R456	ERDS2TJ102	1K 1/4
R457	ERDS2TJ822	8.2K 1/4
R458	ERDS2TJ822	8.2K 1/4
R461	ERDS2TJ223	22K 1/4
R462	ERDS2TJ223	22K 1/4
R463	ERDS2TJ392	3.9K 1/4
R464	ERDS2TJ392	3.9K 1/4
R465	ERDS2TJ333	33K 1/4
R466	ERDS2TJ333	33K 1/4
R467	ERDS2TJ182	1.8K 1/4
R468	ERDS2TJ182	1.8K 1/4
R469	ERDS2TJ821	820 1/4
R470	ERDS2TJ821	820 1/4
R471	ERDS2TJ152	1.5K 1/4
R472	ERDS2TJ152	1.5K 1/4
R473	ERDS2TJ152	1.5K 1/4
R474	ERDS2TJ152	1.5K 1/4
R475	ERDS2TJ102	1K 1/4
R476	ERDS2TJ102	1K 1/4
R478	ERDS2TJ272	2.7K 1/4
R501	ERDS2TJ222	2.2K 1/4
R502 (G)	ERDS2TJ182	1.8K 1/4
R502 (E, E5, EB, EG) (GN)	ERDS2TJ222	2.2K 1/4
R503	ERDS2TJ563	56K 1/4
R504	ERDS2TJ563	56K 1/4
R505 (E, E5, EB, EG) (G)	ERDS2TJ182	1.8K 1/4
R505 (GN)	ERDS2TJ222	2.2K 1/4
R506 (E, E5, EB, EG) (GN)	ERDS2TJ182	1.8K 1/4
R506 (G)	ERDS2TJ222	2.2K 1/4
R507	ERDS2TJ563	56K 1/4
R508	ERDS2TJ563	56K 1/4
⚠ R509	ERDS1FJ100	10 1/2
⚠ R510	ERDS1FJ100	10 1/2
⚠ R511	ERDS1FJ100	10 1/2
⚠ R512	ERDS1FJ100	10 1/2
R513 (GN)	ERDS2TJ182	1.8K 1/4
R513 (E, E5, EB, EG) (G)	ERDS2TJ222	2.2K 1/4
R514	ERDS2TJ222	2.2K 1/4
R515	ERDS2TJ473	47K 1/4
⚠ R517	ERG2ANJP331S	330 2
⚠ R518	ERG2ANJP331S	330 2
R519	ERDS2TJ223	22K 1/4
⚠ R520	ERG3ANJ102	1K 3

Ref. No.	Part No.	Value.
R523	ERDS2TJ223	22K 1/4
R524	ERDS2TJ223	22K 1/4
R525	ERDS2TJ103	10K 1/4
⚠ R526	ERDS1FJ331	330 1/2
R527	ERDS2TJ153	15K 1/4
R528	ERDS2TJ103	10K 1/4
R595	ERDS2TJ223	22K 1/4
R596	ERDS2TJ223	22K 1/4
R601	ERDS2TJ223	22K 1/4
R602	ERDS2TJ103	10K 1/4
R603	ERDS2TJ103	10K 1/4
R610	ERDS2TJ102	1K 1/4
R611	ERDS2TJ102	1K 1/4
R612	ERDS2TJ102	1K 1/4
R613	ERDS2TJ102	1K 1/4
R614	ERDS2TJ102	1K 1/4
R615	ERDS2TJ102	1K 1/4
R616	ERDS2TJ102	1K 1/4
R617	ERDS2TJ102	1K 1/4
R618	ERDS2TJ822	8.2K 1/4
R619	ERDS2TJ272	2.7K 1/4
R620	ERDS2TJ122	1.2K 1/4
R621	ERDS2TJ272	2.7K 1/4
R622	ERDS2TJ332	3.3K 1/4
R623	ERDS2TJ223	22K 1/4
R624	ERDS2TJ223	22K 1/4
R625	ERDS2TJ104	100K 1/4
R626	ERDS2TJ105	1M 1/4
R627	ERDS2TJ102	1K 1/4
R628	ERDS2TJ104	100K 1/4
R631	ERDS2TJ102	1K 1/4
R632	ERDS2TJ102	1K 1/4
R633	ERDS2TJ153	15K 1/4
R634	ERDS2TJ153	15K 1/4
R635	ERDS2TJ473	47K 1/4
R636	ERDS2TJ473	47K 1/4
R637	ERDS2TJ330	33 1/4
R638	ERDS2TJ101	100 1/4
R639	ERDS2TJ101	100 1/4
R640	ERDS2TJ105	1M 1/4
R641	ERDS2TJ220	22 1/4
R645	ERDS2TJ102	1K 1/4
R646	ERDS2TJ102	1K 1/4
R651	ERDS2TJ221	220 1/4
R652	ERDS2TJ221	220 1/4
R653	ERDS2TJ221	220 1/4
R654	ERDS2TJ121	120 1/4
R655	ERDS2TJ121	120 1/4
R656	ERDS2TJ221	220 1/4
R657	ERDS2TJ221	220 1/4
R658	ERDS2TJ471	470 1/4
R659	ERDS2TJ121	120 1/4
R660	ERDS2TJ121	120 1/4
⚠ R701	ERDS1FJ2R2	2.2 1/2
⚠ R702	ERD25FJ3R3	3.3 1/4
R703	ERDS2TJ682	6.8K 1/4
R704	ERDS2TJ822	8.2K 1/4
R705	ERDS2TJ333	33K 1/4
⚠ R706	ERDS1FJ100	10 1/2
R707	ERDS2TJ222	2.2K 1/4
R708	ERDS2TJ682	6.8K 1/4
⚠ R710	ERDS1FJ331	330 1/2
R711	ERDS2TJ272	2.7K 1/4
R712	ERDS2TJ684	680K 1/4
R713	ERDS2TJ154	150K 1/4
R800	ERDS2TJ271	270 1/4
R801	ERDS2TJ102	1K 1/4
R802	ERDS2TJ103	10K 1/4
R803	ERDS2TJ101	100 1/4
R804	ERDS2TJ101	100 1/4
R805	ERDS2TJ821	820 1/4
R806	ERDS2TJ151	150 1/4
R807	ERDS2TJ102	1K 1/4
R808	ERDS2TJ105	1M 1/4
R809	ERDS2TJ223	22K 1/4
R810	ERDS2TJ471	470 1/4
R811	ERDS2TJ101	100 1/4

Ref. No.	Part No.	Value.
R812	ERDS2TJ103	10K 1/4
R813	ERDS2TJ104	100K 1/4
R814	ERDS2TJ223	22K 1/4
R816	ERDS2TJ562	5.6K 1/4
R817	ERDS2TJ564	560K 1/4
R818	ERDS2TJ564	560K 1/4
R819	ERDS2TJ184	180K 1/4
R820	ERDS2TJ184	180K 1/4
R821	ERDS2TJ394	390K 1/4
R822	ERDS2TJ394	390K 1/4
R823	ERDS2TJ102	1K 1/4
R824	ERDS2TJ102	1K 1/4
R825	ERDS2TJ475T	
R826	ERDS2TJ475T	
R827	ERDS2TJ272	2.7K 1/4
R828	ERDS2TJ272	2.7K 1/4
R829	ERDS2TJ222	2.2K 1/4
R830	ERDS2TJ222	2.2K 1/4
R831	ERDS2TJ102	1K 1/4
R832	ERDS2TJ102	1K 1/4
R833	ERDS2TJ474	470K 1/4
R834	ERDS2TJ474	470K 1/4
R835	ERDS2TJ473	47K 1/4
R836	ERDS2TJ473	47K 1/4
R837	ERDS2TJ102	1K 1/4
R838	ERDS2TJ102	1K 1/4
R839	ERDS2TJ102	1K 1/4
R840	ERDS2TJ102	1K 1/4
R841	ERDS2TJ822	8.2K 1/4
R842	ERDS2TJ822	8.2K 1/4
R843	ERDS2TJ474	470K 1/4
R844	ERDS2TJ272	2.7K 1/4
R845	ERDS2TJ104	100K 1/4
R846	ERDS2TJ332	3.3K 1/4
R847	ERDS2TJ224	220K 1/4
R848	ERDS2TJ103	10K 1/4
R849	ERDS2TJ272	2.7K 1/4
R850	ERDS2TJ103	10K 1/4
⚠ R851	ERDS1FJ331	330 1/2
⚠ R852	ERDS1FJ331	330 1/2
⚠ R853	ERDS1FJ331	330 1/2

CAPACITORS(VALUE,VOLTAGE)

C101 (EG)	RCBC1H180JLY	18P 50
C102 (EG)	RCBC1H180JLY	18P 50
C103 (EG)	RCBC1H151KBY	150P 50
C104 (EG)	RCBC1H151KBY	150P 50
C105	ECEA1HPS3R3	3.3 50
C106	ECEA1HPS3R3	3.3 50
C107	RCBC1H101KBY	100P 50
C108	RCBC1H101KBY	100P 50
C109	ECBT1H102KB5	0.001 50
C110	ECBT1H102KB5	0.001 50
C111	ECEA0JPS330	33 6.3
C112	ECEA0JPS330	33 6.3
C115	ECFTD223KXL	0.022 25
C116	ECFTD223KXL	0.022 25
C117	ECFTD682KXL	0.0068 25
C118	ECFTD682KXL	0.0068 25
C119	ECEA1HPS3R3	3.3 50
C120	ECEA1HPS3R3	3.3 50
C121	ECFTD103KXL	0.01 25
C122	ECFTD103KXL	0.01 25
C123	ECKD1H473ZF	0.047 50
C124 (EG)	ECFTD103KXL	0.01 25
C201	ECEA1HPS3R3	3.3 50
C202	ECEA1HPS3R3	3.3 50
C203	ECEA1HPS3R3	3.3 50
C204	ECEA1HPS3R3	3.3 50
C205	ECEA1HPS3R3	3.3 50
C206	ECEA1HPS3R3	3.3 50
C219	ECKD1H473ZF	0.047 50

Ref. No.	Part No.	Value.
C220	ECKD1H473ZF	0.047 50
C222	ECEA1CK220	22 16
C223	ECEA1CK220	22 16
C224	ECKD1H223PF	0.022 50
C225	ECKD1H223PF	0.022 50
C226	ECKD1H473ZF	0.047 50
C227	ECQM1H104JZP	0.1 50
C251	RCBC1H101KBY	100P 50
(EG)		
C252	RCBC1H101KBY	100P 50
(EG)		
C253	RCBC1H101KBY	100P 50
(EG)		
C254	RCBC1H101KBY	100P 50
(EG)		
C255	RCBC1H101KBY	100P 50
(EG)		
C256	RCBC1H101KBY	100P 50
(EG)		
C257	RCBC1H101KBY	100P 50
(EG)		
C258	RCBC1H101KBY	100P 50
(EG)		
C261	RCBC1H101KBY	100P 50
(EG)		
C262	RCBC1H101KBY	100P 50
(EG)		
C263	RCBC1H101KBY	100P 50
(EG)		
C264	RCBC1H101KBY	100P 50
(EG)		
C265	RCBC1H101KBY	100P 50
(EG)		
C266	RCBC1H101KBY	100P 50
(EG)		
C267	RCBC1H101KBY	100P 50
(EG)		
C268	RCBC1H101KBY	100P 50
(EG)		
C269	RCBC1H101KBY	100P 50
(EG)		
C270	RCBC1H101KBY	100P 50
(EG)		
C271	RCBC1H101KBY	100P 50
(EG)		
C272	RCBC1H101KBY	100P 50
(EG)		
C307	RCBC1H680JLY	68P 50
C308	ECFTD823KXL	0.082 25
C309	ECEA1EK3R3B	3.3 25
C310	RCBS1H221KBY	220P 50
C311	ECEA1EK3R3B	3.3 25
C313	RCBS1H820KBY	82P 50
C314	RCBS1H820KBY	82P 50
C315	ECEA1HPS3R3	3.3 50
C316	ECEA1HPS3R3	3.3 50
C318	ECKD1H223PF	0.022 50
C351	ECBT1E103ZF	0.01 25
C352	ECBT1E103ZF	0.01 25
C353	RCBS1H330JLY	33P 50
C354	RCBS1H330JLY	33P 50
C355	ECEA1HPS3R3	3.3 50
C356	ECEA1HPS3R3	3.3 50
C357	ECEA1HPS3R3	3.3 50
C358	ECEA1HPS3R3	3.3 50
C359	RCBS1H330JLY	33P 50
C360	RCBS1H330JLY	33P 50
C361	ECEA1HPS3R3	3.3 50
C362	ECEA1HPS3R3	3.3 50
C363	ECEA1HPS3R3	3.3 50
C364	ECEA1HPS3R3	3.3 50
C365	ECEA1CK220	22 16
C367	ECEA1CK220	22 16
C369	ECEA1CKS100	10 16
C370	ECEA1CKS100	10 16
C373	RCBS1H820KBY	82P 50
(EG)		

Ref. No.	Part No.	Value.
C374	RCBS1H820KBY	82P 50
(EG)		
C401	ECEA1EK3R3B	3.3 25
C402	ECEA1EK3R3B	3.3 25
C409	RCBC1H101KBY	100P 50
C410	RCBC1H101KBY	100P 50
C411	RCBS1H100JLY	10P 50
C412	RCBS1H100JLY	10P 50
C413	ECEA1HK2R2B	2.2 50
C414	ECEA1HK2R2B	2.2 50
C419	ECFTD473KXL	0.047 25
C420	ECFTD473KXL	0.047 25
C421	ECEA1HK2R2B	2.2 50
C422	ECEA1HK2R2B	2.2 50
C423	ECEA1HPS3R3	3.3 50
C424	ECEA1HPS3R3	3.3 50
C425	ECEA1HPS3R3	3.3 50
C426	ECEA1HPS3R3	3.3 50
C427	ECEA1HPS3R3	3.3 50
C428	ECEA1HPS3R3	3.3 50
C431	ECFTD683KXL	0.068 25
C432	ECEA1HK010	1 50
C451	RCBC1H101KBY	100P 50
C452	RCBC1H101KBY	100P 50
C453	RCBC1H680JLY	68P 50
C454	RCBC1H680JLY	68P 50
C455	ECBT1H821KB5	820P 50
C456	ECBT1H821KB5	820P 50
C457	ECFTD123KXL	0.012 25
C458	ECFTD123KXL	0.012 25
C459	ECFTD683KXL	0.068 25
C460	ECFTD683KXL	0.068 25
C461	ECEA1HPS010	1 50
C462	ECEA1HPS010	1 50
C463	ECFTD472KXL	4700P 25
C464	ECFTD472KXL	4700P 25
C465	ECFTD223KXL	0.022 25
C466	ECFTD223KXL	0.022 25
C467	ECEA1HPS3R3	3.3 50
C468	ECEA1HPS3R3	3.3 50
C469	ECFTD103KXL	0.01 25
C470	ECFTD103KXL	0.01 25
C471	ECEA1CK470	47 16
C501	ECEA1HPS3R3	3.3 50
C502	ECEA1HPS3R3	3.3 50
C503	ECBT1H821KB5	820P 50
C504	ECBT1H821KB5	820P 50
C505	ECEA1CPS220	22 16
C506	ECEA1CPS220	22 16
C507	RCBS1H6R8KLY	6.8P 50
C508	RCBS1H6R8KLY	6.8P 50
C509	RCBC1H151KBY	150P 50
(E, E5, EB, G)		
(GN)		
C509	RCBS1H271KBY	270P 50
(EG)		
C510	RCBC1H151KBY	150P 50
(E, E5, EB, G)		
(GN)		
C510	RCBS1H271KBY	270P 50
(EG)		
C511	ECFTD473KXL	0.047 25
C512	ECFTD473KXL	0.047 25
C513	ECEA0JS331	330 6.3
C514	ECEA1HKR22	0.22 50
C515	ECEA0JK330	33 6.3
C516	ECFTD103KXL	0.01 25
(EG)		
C517	ECEA2AN2R2SB	2.2 100
(EG)		
C518	ECEA1CKS100	10 16
C519	ECEA1CK470	47 16
C520	ECEA1CK101	100 16
C521	ECFTD473KXL	0.047 25
C522	ECFTD473KXL	0.047 25
C523	ECKD1H102KB	1000P 50
C524	ECKD1H102KB	1000P 50

Ref. No.	Part No.	Value.
C561	ECKD1H102KB	1000P 50
(EG)		
C562	ECKD1H102KB	1000P 50
(EG)		
C563	ECKD1H223PF	0.022 50
(EG)		
C564	ECKD1H223PF	0.022 50
(EG)		
C565	ECKD1H102KB	1000P 50
(EG)		
C566	ECKD1H102KB	1000P 50
(EG)		
C567	ECKD1H223PF	0.022 50
(EG)		
C568	ECKD1H223PF	0.022 50
(EG)		
C597	ECKD1H221KB	220P 50
(EG)		
C598	ECKD1H221KB	220P 50
(EG)		
C600	ECEA1CKS100	10 16
C601	ECEA0JS102	1000 6.3
C602	ECKD1H223PF	0.022 50
C603	ECEA1HK010	1 50
C604	ECFTD333KXL	0.033 25
C605	ECFTD683KXL	0.068 25
C606	ECEA1EK4R7	4.7 25
C607	ECEA1HK010	1 50
C608	ECBT1H102KB5	0.001 50
C609	ECBT1H102KB5	0.001 50
C610	ECEA1CKS100	10 16
C611	RCBC1H101KBY	100P 50
C612	RCBC1H101KBY	100P 50
C613	RCBS1H221KBY	220P 50
C614	RCBS1H221KBY	220P 50
C615	ECEA1VKA330	33 35
C616	ECEA1HK2R2B	2.2 50
C617	ECEA1HK2R2B	2.2 50
C618	ECKD1H223PF	0.022 50
C619	ECFTD103KXL	0.01 25
C620	ECKF1H103ZF	0.01 50
C621	ECKF1H103ZF	0.01 50
C622	ECKF1H103ZF	0.01 50
C623	ECKF1H103ZF	0.01 50
C624	ECKF1H103ZF	0.01 50
C625	ECKF1H103ZF	0.01 50
C626	ECKD1H473ZF	0.047 50
C627	ECKF1H103ZF	0.01 50
C628	ECKF1H103ZF	0.01 50
C629	ECKD1H102KB	1000P 50
C630	ECKF1H103ZF	0.01 50
C631	ECKF1H103ZF	0.01 50
C632	ECKF1H103ZF	0.01 50
C697	ECQV1H474JZ3	0.47 50
C698	RCBS1H221KBY	220P 50
C699	RCBS1H221KBY	220P 50
C700	ECKDKC103PF2	0.01 125
C701	ECES1JU682U	6800 63
C702	ECES1JU682U	6800 63
C703	ECFTD103KXL	0.01 25
C704	ECFTD103KXL	0.01 25
C705	ECEA1CU470	47 16
C706	ECEA1CU470	47 16
C707	ECEA1CK220	22 16
C708	ECEA1CK220	22 16
C709	ECQE2104KS	0.1 250
C710	ECEA1HK4R7	4.7 50
C711	ECEA1VK100B	10 35
C712	ECEA1VK100B	10 35
C714	ECEA1HK010	1 50
C715	ECFTD473KXL	0.047 25
(EG)		
C716	ECFTD103KXL	0.01 25
(EG)		
C801	RCBS1H271KBY	270P 50
C802	RCBS1H271KBY	270P 50
C803	ECEA0JU101	100 6.3

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
C804	ECEA0JK101	100 6.3	C813	ECEA1EK4R7	4.7 25	C823	ECEA1CKN100B	10 16
C805	ECEA0JK101	100 6.3	C814	ECFD1H104ZF	0.1 50	C824	ECEA1EK4R7	4.7 25
C806	ECEA0JK101	100 6.3	C815	ECEA0JK101	100 6.3	C825	ECEA1EKN4R7	
C807	ECFD1H104ZF	0.1 50	C816	RCBS1H6R8KLY	6.8P 50	C826	ECEA1EKN4R7	
C808	ECEA0JK101	100 6.3	C817	ECFD1H104ZF	0.1 50	C827	ECBT1H102KB5	0.001 50
C809	ECFD1H104ZF	0.1 50	C819	ECEA0JK470	47 6.3	C828	ECBT1H102KB5	0.001 50
C810	ECQM1H103JZ	0.01 50	C820	ECEA0JK101	100 6.3	C829	ECBT1E223ZF	0.022 25
C811	RCBS1H100JLY	10P 50	C821	ECEA0JK470	47 6.3	C830	ECBT1E223ZF	0.022 25
C812	RCBS1H100JLY	10P 50	C822	ECEA0JK470	47 6.3	C831	ECFD1H104ZF	0.1 50

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC101	AN6558F	I.C. PHONO EQ AMP
IC200	TC4066BF	I.C. CD INPUT SELECTOR
IC201	TC9164N	I.C. INPUT SEL.
IC301	M5238P	I.C. PHASE SHIFT
IC302	AN6554F	I.C. MIXING AMP
IC303	AN6558F	I.C. BUFFER AMP
IC304	AN6557F	I.C. BUFFER AMP
IC305	AN6557F	I.C. MIXING AMP
IC306	M51131L-702	I.C. ATTENUATOR
IC307	M51131L-702	I.C. ATTENUATOR
IC402	AN6554F	I.C. PRE AMP
IC403	AN6558F	I.C. TONE AMP
IC501	SVI3204	I.C. POWER AMP
IC601	M50754-411SP	I.C. MICRO COMPUTER
IC602	MN4030B	I.C., LOGIC
IC603	MN4013B	I.C. LOGIC
IC604	AN6552F	I.C. BUFFER AMP
IC701	AN78M05R	I.C. REGULATOR
IC801	SVITORX172	I.C. OPTICAL REC.
IC802	SVITORX172	I.C. OPTICAL REC.
IC803	TC74HCU04AF	I.C. INVERTER
IC804	TC74HC4053AF	I.C. DIGITAL INPUT
IC805	YM3623B	I.C. DIGITAL SIGNAL
IC806	YM3404B	I.C. DIGITAL FILTER
IC807	PCM56P-L	I.C. D/A CONVERTER
IC808	PCM56P-L	I.C. D/A CONVERTER
IC809	TC74HC164AF	I.C. 8BIT SIFT RESISTOR
IC810	TC74HC164AF	I.C. 8BIT SIFT RESISTOR
IC811	TC74HC00AF	I.C. NAND GATE
IC812	MN6636S	I.C. DEGLITCH
IC813	LM833M63	I.C., BUFFER AMP
IC814	SVIBA4560F	I.C. BUFFER AMP
IC815	SVIH8DN2041B	I.C. LOW PASS FILTER
IC816	SVIH8DN2041B	I.C. LOW PASS FILTER
IC817	DN74LS145S	I.C. LED DRIVE
IC818	TC74HC123AF	I.C., MULTIVIBRATOR
TRANSISTORS		
Q200	2SC3311A-Q	TRANSISTOR
Q201	2SC3311A-Q	TRANSISTOR
Q202	2SC3311A-Q	TRANSISTOR
Q203	DTA114ESTP	TRANSISTOR
Q301	2SD1450R	TRANSISTOR
Q303	DTA114ESTP	TRANSISTOR
Q401	2SD1450R	TRANSISTOR
Q402	2SD1450R	TRANSISTOR
Q403	DTA114ESTP	TRANSISTOR
Q404	2SD1450R	TRANSISTOR
Q405	2SD1450R	TRANSISTOR
Q406	DTA114ESTP	TRANSISTOR
Q407	2SC3311A-Q	TRANSISTOR
Q408	2SC3311A-Q	TRANSISTOR
Q409	DTA114ESTP	TRANSISTOR
Q501	2SA992E	TRANSISTOR
Q502	2SC3311A-Q	TRANSISTOR
Q503	2SA1309AQS	TRANSISTOR
Q601	UN4111	TRANSISTOR
Q602	UN4111	TRANSISTOR
Q603	UN4211	TRANSISTOR
Q604	2SC3311A-Q	TRANSISTOR
Q611	UN4211	TRANSISTOR
Q612	UN4211	TRANSISTOR
Q613	UN4211	TRANSISTOR
Q614	UN4211	TRANSISTOR
Q615	UN4211	TRANSISTOR
Q616	UN4211	TRANSISTOR
Q617	UN4211	TRANSISTOR
Q618	UN4111	TRANSISTOR
Q619	UN4111	TRANSISTOR
Q621	2SC3311A-Q	TRANSISTOR
Q622	UN4211	TRANSISTOR
Q701	2SD1265-P	TRANSISTOR
Q702	2SB941PQR	TRANSISTOR
Q703	UN4211	TRANSISTOR
Q704	2SB621A-R	TRANSISTOR
Q705	2SD1265-P	TRANSISTOR
Q801	UN4211	TRANSISTOR
Q802	2SB1030Q	TRANSISTOR
Q803	2SC3311A-Q	TRANSISTOR
Q804	2SC3311A-Q	TRANSISTOR
Q805	2SD1450R	TRANSISTOR
Q806	2SD1450R	TRANSISTOR
Q807	UN4111	TRANSISTOR
Q808	UN4111	TRANSISTOR
Q809	UN4211	TRANSISTOR
Q810	UN4211	TRANSISTOR
Q811	2SA1309A-R	TRANSISTOR
Q812	2SA1309AQS	TRANSISTOR
DIODES		
D201	MA4051-M	DIODE
D203	MA4082	DIODE
D204	MA4082	DIODE
D403	MA165	DIODE
D405	MA165	DIODE
D502	MA4120	DIODE
D503	MA4120	DIODE
D505	MA167	DIODE
D506	MA167	DIODE
D507	MA165	DIODE
D511	MA167	DIODE
D512	MA167	DIODE
D601	MA165	DIODE
D602	MA165	DIODE
D603	MA165	DIODE
D605	MA165	DIODE

Ref. No.	Part No.	Description
D606	MA165	DIODE
D607	MA165	DIODE
D608	MA700A	DIODE
D609	MA700A	DIODE
D610	MA700A	DIODE
D611	MA165	DIODE
D612	MA165	DIODE
D613	MA165	DIODE
D615	MA155	DIODE
D616	MA165	DIODE
D617	MA165	DIODE
D618	MA4082	DIODE
D619	MA165	DIODE
D620	MA165	DIODE
D621	MA165	DIODE
D622	MA165	DIODE
D623	MA165	DIODE
D624	MA165	DIODE
D625	MA165	DIODE
D626	MA165	DIODE
D627	MA165	DIODE
D631	LN846RP-C	L.E.D
D632	LN846RP-C	L.E.D
D633	LN846RP-C	L.E.D
D634	LN0202RP2	DIODE
D635	LN0202RP2	DIODE
D636	LN846RP-C	L.E.D
D637	LN846RP-C	L.E.D
D638	LN873RP-LS	DIODE
D641	MA165	DIODE
D642	MA165	DIODE
D643	MA165	DIODE
D644	MA165	DIODE
D645	MA165	DIODE
D646	MA165	DIODE
D647	MA165	DIODE
D648	MA165	DIODE
D649	MA165	DIODE
D701 ⚠	SVDS3V40	DIODE
D702 ⚠	SVDS3V40	DIODE
D703 ⚠	SVDS3V40	DIODE
D704 ⚠	SVDS3V40	DIODE
D705	MA4140-M	DIODE
D706	MA4140-M	DIODE
D707	MA29WA	DIODE
D709	MA167	DIODE
D710	MA167	DIODE
D711	MA165	DIODE
D714	MA4300M	DIODE
D801	MA165	DIODE
D802	MA165	DIODE
D803	MA165	DIODE
D804	MA165	DIODE
D805	MA700	DIODE
D806	MA165	DIODE
D807	MA4051-M	DIODE
D808	MA4051-M	DIODE
D809	MA4051-M	DIODE
D810	MA29WA	DIODE
D811	MA165	DIODE
D812	MA165	DIODE
D813	MA165	DIODE
D820	LN038417P1	DIODE
D821	LN038417P1	DIODE
D822	LN038417P1	DIODE
VARIABLE RESISTORS		
VR401	EWC2XAF20C15	V.R, BASS
VR402	EWC2XAF20C15	V.R, TREBLE
VR403	EWHFDAF20G15	V.R, BALANCE
VR601	EVQWX2F2045B	V.R., VOLUME ENCODER

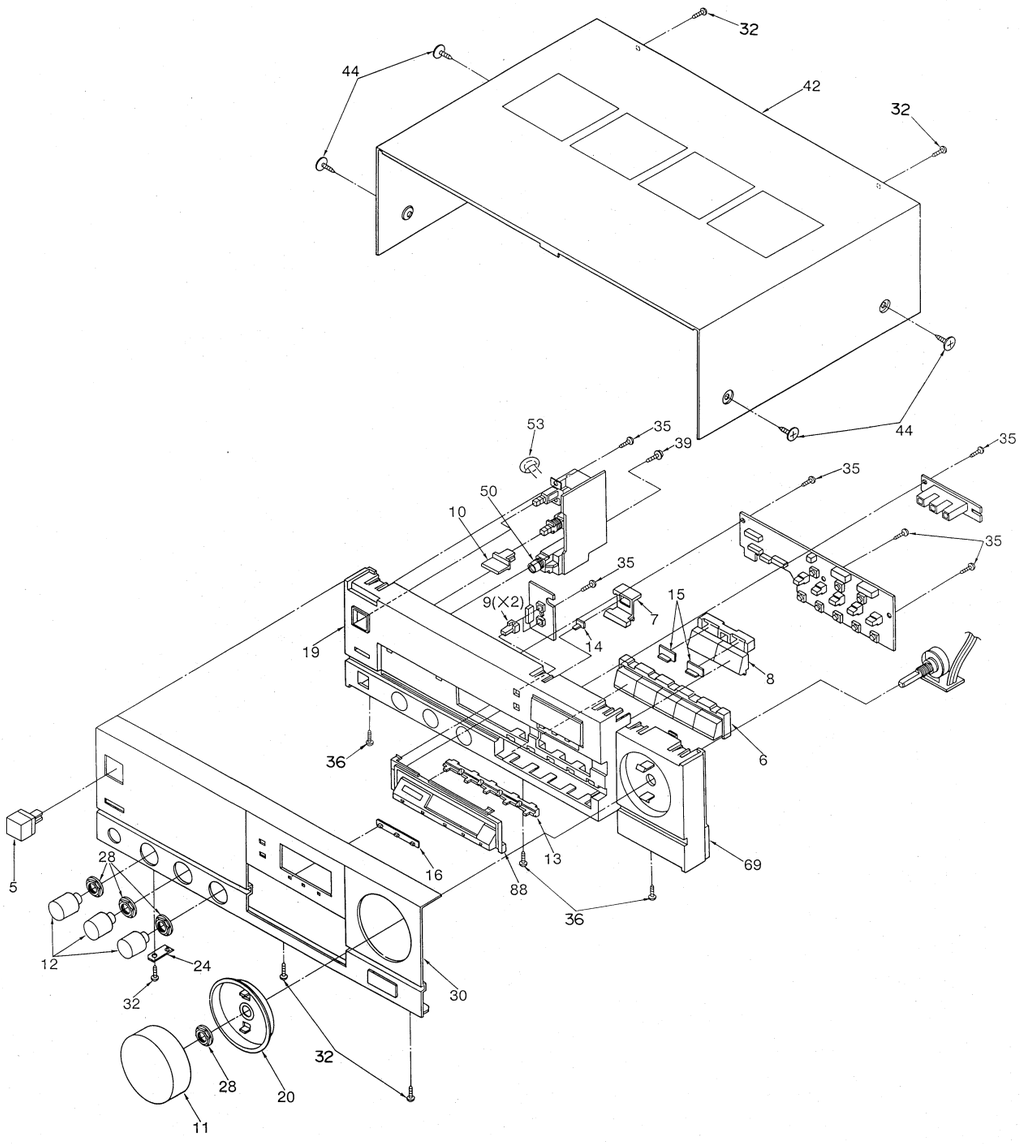
Ref. No.	Part No.	Description
COILS AND TRANSFORMERS		
L301	RLQZP100KT-Y	COIL
L501	SLQY07G-40	CHOKE COIL
L502	SLQY07G-40	CHOKE COIL
L505 (EG)	SLQY07G-40	CHOKE COIL
L506 (EG)	SLQY07G-40	CHOKE COIL
L507 (EG)	SLQY07G-40	CHOKE COIL
L508 (EG)	SLQY07G-40	CHOKE COIL
L601	RLQZP101KT-Y	COIL
L603	ELEXT330KA9	COIL
L604	ELEXT330KA9	COIL
L605	ELEPK1R2MA	COIL
L609	ELEXT330KA9	COIL
L610	RLQZP1R2KT-Y	CHOKE COIL
L801	RLQZP101KT-Y	COIL
L802	RLQZP101KT-Y	COIL
L803	ELEXT470KA9	COIL
L804	ELEXT470KA9	COIL
L805	ELEXT470KA9	COIL
L806	RLQZP101KT-Y	COIL
T700 ⚠ (EB, GN)	SLT5N484-W	POWER TRANSFORMER
T700 ⚠ (E, E5, EG)	SLT5N485-W	POWER TRANSFORMER
T700 ⚠ (G)	SLT5N486-W	POWER TRANSFORMER
COMPONENT COMBINATIONS		
Z603	EXBF5E103J	COMBINATION PART
Z604	EXBF8E103J	COMPONENT COMBINATION
Z801	EXCEMT103DC	CNMBINATION COM
Z802	EXCEMT103DC	CNMBINATION COM
Z803	EXCEMT103DC	CNMBINATION COM
DISPLAYS		
FL1	SADFV217	DISPLAY TUBE
FUSES		
F1 ⚠ (E, E5, EG)	XBA2C16TB0	FUSE 250V, A1.6A
F1 ⚠ (G)	XBA2C31TB0	FUSE 250V, T3.15A
F2 ⚠ (EB, G, GN)	XBA2C16TB0	FUSE 250V, A1.6A
F2 ⚠ (E, E5, EG)	XBA2C20TB0	FUSE 250V, T2A
SWITCHES		
S201	SSS153	SW, CD INPUT SELECTOR
S501	SSH1073	SW, SPEAKER
S601	EVQQB005R	SW, PHONO
S602	EVQQB005R	SW, TUNER
S603	EVQQB005R	SW, CD
S604	EVQQB005R	SW, TAPE 1
S605	EVQQB005R	SW, TAPE 2
S606	EVQQB005R	SW, AUX
S607	EVQQB005R	SW, DAT
S608	EVQQB005R	SW, MUTING
S609	EVQQLY07K	SW, SURROUND
S610	EVQQLY07K	SW, S.BASS
S700 ⚠	SSH1071	SW, POWER
S701 ⚠ (G)	ESE37263	SW, VOLTAGE SELECTOR
RELAYS		
RL501	SSY134	RELAY
OTHERS		
X601	EF0FC4004A4	CERAMIC FILTER
X801	SVQAT1923-S	CRYSTAL OSCILLATOR

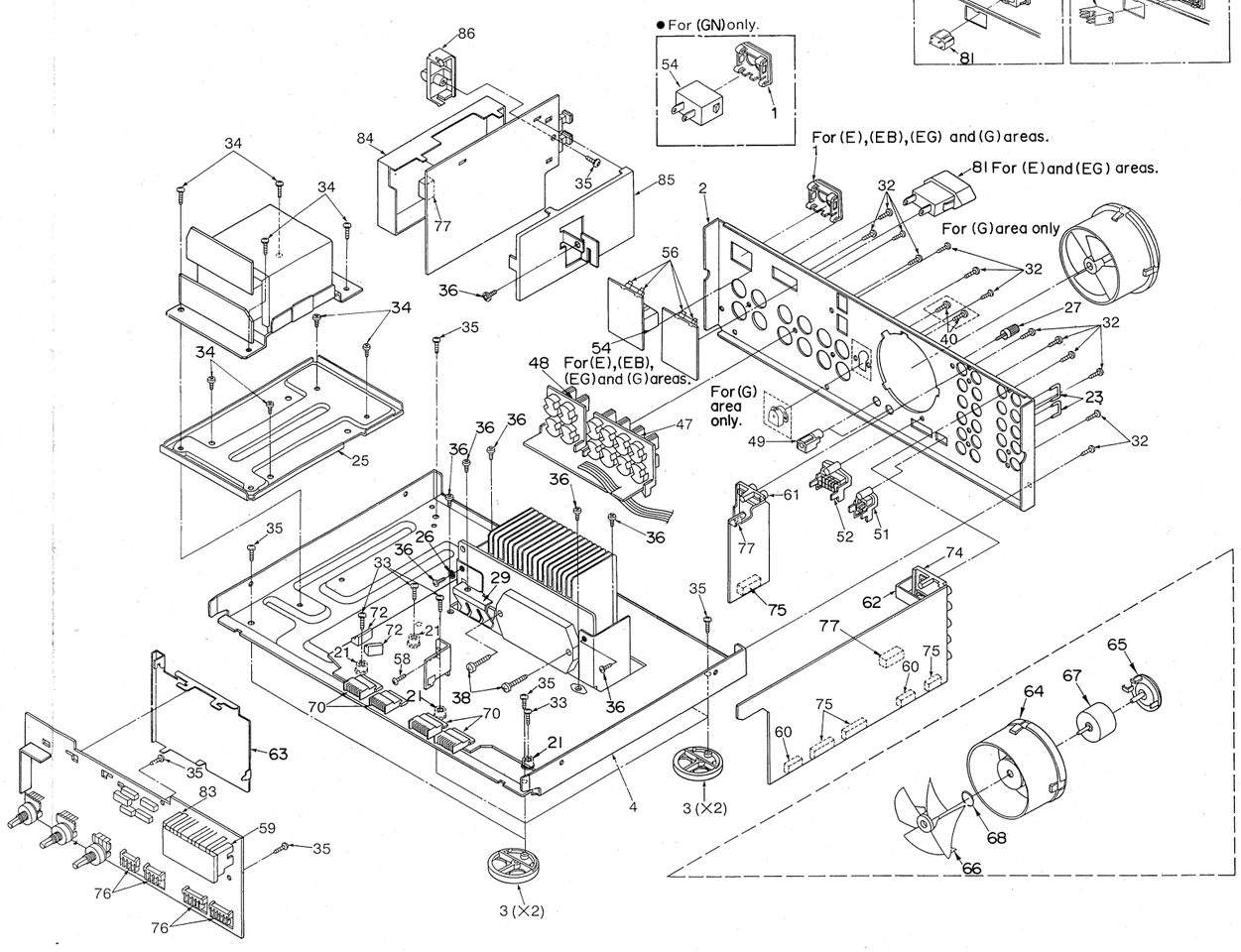
Ref. No.	Part No.	Description
CABINET AND CHASSIS		
1 (E, E5, EB, EG)	SJS9231A	AC INLET COVER
1 (G)	SJS9234A	AC INLET COVER
2 (GN)	SGP7170-12C	REAR PANEL
2 (E)	SGP7170-12D	REAR PANEL
2 (EG)	SGP7170-12H	REAR PANEL
2 (E5)	SGP7170-13B	REAR PANEL
2 (EB)	SGP7170-14A	REAR PANEL
2 (GN)	SGP7170-15A	REAR PANEL
2 (G)	SKL307	FOOT
3	SKU11650-3	BOTTOM BOARD
4	SBC666-1	BUTTON, POWER
5	SBC983B	BUTTON, SELECTOR
6	SBC1023	BUTTON, MUTING
7	SBC1024-1A	BUTTON, DIGITAL
8	SBC1025	BUTTON, BASS
9	SBC928	BUTTON, SPEAKER
10	SBN1224	KNOB, VOLUME
11	RGW0016	KNOB, TONE
12	SDL97	SMOKE PLATE
13	SDL98	SMOKE PLATE
14	SDL99	SMOKE PLATE
15	SDL100	SMOKE SLATE
16	SMC1297	SHIELD COVER
18	SGXUX950-KE1	FRONT GRILLE
19	SGX9036	ORNAMENT
20	SHE187-2	HOLDER
21	SJP9205-2Y	SHORTING PIN
23	SMC1274	BRACKET
24	SMN2078-2	BRACKET
25	XWE3E13	WASHER
26	SNE2123	SCREW
27	SNE4021-1	NUT
28	SUS832	SPRING
29	RYP0064	FRONT PANEL ASS'Y
30	XTBS3+8JFZ1	SCREW
32	XTB3+20J	SCREW
33	XTB3+6FFZ	SCREW
34	XTB3+8G	SCREW
35	XTB3+8J	SCREW
36	XTB3+16J	SCREW
38	XTWS3+8T	SCREW
39	XYN3+C6FZ	SCREW
40 (G)	SKC2071K163	CABINET
42	SNE2129-1	SCREW
44	SJF4818-1	TERMINAL BOARD, SP A
47	SJF4442-1	TERMINAL BOARD, SP B
48	SJJ141	M3 JACK
49	SJJ71E	JACK, HEADPHONE
50	SJS306	SOCKET(3P), TUNER
51	SJS804	SOCKET(8P), DECK
52	SMX897	COVER(CAPACITOR)
53	SJS9231-1B	AC INLET
54 ⚠ (E, E5, EB, EG)		
54 ⚠ (G)	SJS9234B	AC INLET
54 ⚠ (GN)		
56 ⚠	SJT388	FUSE HOLDER
58	XTW3+8T	SCREW
59	SMN2056	BRACKET
60	SMN2043	ANGLE
61	SJF3062-13N	TERMINAL BOARD
62	SMC6453	SHIELD PLATE
63	SMC6441	SHIELD PLATE
64	SHE233	FAN CASE
65	SHE234	CAP
66	SHE232	FAN
67	MDN-4RB4MXA	MOTOR
68	SUS271	SPRING
69	SGXUX950-KE2	FRONT GRILLE
70	SJS50680WL	SOCKET(6P), J603, J604
70	SJS51080WL	SOCKET(10P), J601, J602
72	SJT30543-V	CONNECTOR(5P), J700
72	SJT30740LX-V	CONNECTOR(7P), J501
74	SJF3062-22N	TERMINAL BOARD
75	SJT30439MB	CONNECTOR (4P), J201B
75	SJT30839MB	CONNECTOR(8P), J204B
75	SJT30939MB	CONNECTOR(9P), J202B
75	SJT31239MB	CONNECTOR (12P), J206B
76	SJT30647WL	CONNECTOR(6P), J603B, J604B
76	SJT31047WL	CONNECTOR(10P), J601B, J602B
77	SJT3213	CONNECTOR(2P), J207B
77	SJT3613	CONNECTOR(6P), J801D
77	SJT3709	CONNECTOR(7P), J200B
81 ⚠ (E, E5, EG)	SJS9225	AC OUTLET
81 ⚠ (G)	SJS9232B	AC OUTLET
81 ⚠ (EB)	SJS9332B	AC OUTLET
82 (G)	SJS9330A	AC OUTLET COVER
82 (EB)	SJS9332A	AC OUTLET COVER
83	SMN2056-1	BRACKET
84	RSC0033	COVER
85	RSC0034	COVER
86	SGX7967	ORNAMENT
88	SGX7977-1A	ORNAMENT

Ref. No.	Part No.	Description
PACKING MATERIAL		
P1	RPG0103	PACKING CASE
P2	RUB50RK05W	PROTECTION BAG
P3	SPS5182	PAD, FRONT
P4	SPS5183	PAD, REAR
P5	SPS5184	PAD
P6	XZB10X30A02	PROTECTION COVER
ACCESSORIES		
A1 (E, E5)	RQF0076	INSTRUCTION MANUAL
A1 (EB)	RQF0077	INSTRUCTION MANUAL
A1 (G)	RQF0078	INSTRUCTION MANUAL
A1 (EG)	RQF0079	INSTRUCTION MANUAL
A1 (GN)	RQF0081	INSTRUCTION MANUAL
A2 ⚠ (G)	RJA0004	POWER CORD
A2 ⚠ (E, E5, EG)	SFDAC05E03	POWER CORD
A2 ⚠ (GN)	SJA173	POWER CORD
A2 ⚠ (EB)	SJA188	POWER CORD
A3 ⚠ (G)	RJP120ZBS-H	AC PLUG ADAPTOR

■ EXPLODED VIEW

(Parts list on page 32)





Printed in Japan
F890307500 TW/TN/YY